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THE

Medico-Chirurgical Review,

No. LXXXI.

[NO. 41 OF A DECENNIAL SERIES.]

APRIL 1, TO JULY 1, 1844.

I. ILLUSTRATIONS OF THE THEORY AND PRACTICE OF VENTILATION, &c. By *David Boswell Reid*, M.D. F.R.S.E. London. 1844.

II. THERMAL COMFORT: OR, POPULAR HINTS FOR PRESERVATION FROM COLDS, COUGHS, AND CONSUMPTION. By Sir *George Lefevre*, M.D. Second Edition. London. 1844.

WE take it that the increased attention which has of late years been paid to both personal and public health, is a proof that the medical profession frequently acts in a very disinterested manner. We are continually occupied in lessening the possibility of the occurrence of those very maladies, whose existence is a source of emolument to us. It is quite true, that if medical men banded themselves together for the purpose of preventing the removal of the causes of disease, just as various monopolizing fraternities do for the limitations of the necessaries and luxuries of life, their conduct would be met with the indignation of the public, not because it would be more injurious or destructive to life and happiness than the proceedings of the worthies alluded to, but because its ill effects, although not greater in extent, would be more obvious in operation. A state of apathy or inaction, however, might have been tenable with little or no reproach, the general feeling with the world at large being, that if it is not allowable that a man should use his power in injuring, by impeding the flow of benefits to, others, so is it not to be expected of him that he should go out of his way to benefit them, by injuring his own interests. Medical men take higher ground than this: and we may say, with truth, that the benefit they confer on society, by relieving the various diseases it has become afflicted with, is well nigh equalled by that derived from their counsels for the prevention of their recurrence or propagation. A practitioner is consulted for some ailment, which, perhaps, he is successful in relieving; but what reflecting patient does not perceive the great incidental advantages he has derived from the intercourse he has held with his adviser, whether these relate to a prevention of a return of the same malady, or to general observations upon the preservation of his health or that of

other members of his family. So in medical books, a leading feature is always the consideration of the prevention of the diseases they treat of, and that frequently, not by the agency of the class to whom the works are addressed, but by modes too simple to require their aid, and yet not sufficiently obvious until pointed out. In fact, the general tenour of professional feeling has always taken a high moral tone; and has discouraged all attempts at concealment and mystery, even in the treatment of disease, and has encouraged, and often powerfully urged, the adoption of efficient preventive means. Almost every improvement in the sanatary condition of the public has been suggested by the observation and philanthropy of medical men, whose education and opportunities, indeed, furnish them with illustrations of the importance and necessity of change in various practices long before these are perceived by even the observant portion of the public.

There has always been a considerable class of publications dedicated by medical men expressly to furnishing instruction upon the preservation of health; and at no time have these been so prolific, or so well-written, as in our own. Every circumstance of public and personal hygiene has been subjected to long and repeated examinations; and the instructions deduced from these have become now, to a considerable extent, practically useful. The management of health, in every stage of life, has been placed upon a more sure basis, the occurrence of disease rendered less frequent, and, so to speak, less excusable, and its removal more easy and certain. Much remains to be done: but the great point is to rouse public attention to the necessities of the case, and this, we think, has been to a considerable extent accomplished.

Although Dr. Reid's "Illustrations of Ventilation" does not fall exactly within the category of works we have alluded to, and embraces in its exposition of the exemplifications of the subject, a much wider sphere; yet, it is especially important in the point of view we have mentioned, viz. in calling attention to the evils it would remove, and showing to how much greater extent they prevail than is generally supposed. How far the means here detailed have been successful in the gigantic undertaking of ventilating and warming the Houses of Parliament, or how far the objections hold good to the plans suggested, and, we believe, as yet not very satisfactorily put into operation, for ships, &c. we are not in a condition to offer an opinion; but of the soundness of the principles laid down, of the value of the directions given, and the importance of the exposure of the general defective condition of ventilation among us, we entertain no doubt whatever, and think the public is much indebted to Dr. Reid for the able, and yet easily understood, manner in which he has developed them.

We need not urge upon the medical reader the importance of an abundant supply of pure air. Time was, when this might have been necessary; but the woful experience of over-crowded hospitals, &c. has produced a complete unanimity of opinion upon this subject among the profession. Some of Dr. Reid's calculations of the aggregate quantity required by large masses of people are interesting. Before quoting these, it may be observed, he considers a much larger quantity of air is required for healthy respiration than many other persons do. Thus, while different observers state two, or four cubic feet of air per minute, to be

requisite, Dr. Reid places the quantity, under ordinary circumstances, as high as ten feet.

"If we look to the fact that less than half a cubic foot of air passes through the lungs of an adult in a minute, this estimate may at first appear excessive: but if we remember that at each expiration, a quantity of air is emitted which mingles with an additional portion of air largely exceeding its own bulk, and that there are twenty such respirations in a minute, while provision is likewise required for the air that affects the surface of the body, and for the endless variety of minor effects produced by furniture, lighting, heating, refreshments, &c. where no peculiar adaptations for these purposes have been introduced beyond those usually observed, it will be seen that the estimate is by no means immoderate. The real question is not what the constitution can bear, but that amount which is conveniently accessible in ordinary habitations, and which is essential for the wants of the system."

The following calculations are founded upon the mean of various observations by different experimenters.

"The inhabitants of London, amounting to two millions, respire every minute 370.370 cubic feet, or 12¼ tons of air, and consequently require for respiration alone 6,653,000 tons per annum. Allowing, however, 10 cubic feet per minute to each individual for the supply of his various wants, the consumption amounts to 359,000,000 tons annually, or nearly 1,000,000 of tons daily. They evolve from the lungs about 220,000 tons of carbon, and 215,000 tons of water. * * * In a room 12 feet square, and 12 feet high, containing therefore 1728 cubic feet of air, there are ten persons who respire the whole air in the room in 15¼ hours, and require a complete change every 17 minutes in order to supply them with the 10 cubic feet per minute. * * * One man, during a life of 50 years, makes 525,600,000 respirations, inspires 166.3 tons of air, consumes 18.57 tons of oxygen, discharges 19.8 tons of carbonic acid, containing 5.475 tons of carbon, or about 80 times the weight of his own body (150 lbs). * * * The inhabitants of the earth, taken at 1,000,000,000, respire annually 3,327,000,000 tons of air, and evolve 109¼ million tons of carbon. The total weight of the atmosphere is about 5,261,000,000,000,000 tons, so that it would require 1,580,000 years to elapse before the whole atmosphere could be respired by the human inhabitants of the earth. * * * The whole inhabitants of the earth discharge annually from the lungs 107,000,000 tons of water, a quantity which, if collected together, would form a sphere nearly 2000 feet in diameter." 16.

The quantity of air required varies much under different circumstances There is a certain amount which, if not furnished, death ensues, but above this there is every gradation until a complete supply is attained, which, in cold weather, is attended with a difficulty and expense that place fresh air amid the luxuries of life. The perception of the impurity of air and the necessity of change becomes blunted by habit, and thus the air of a coal mine, which will not support the combustion of a candle, but only that of a lamp, and which may cause fainting or death to one unaccustomed to it, is breathed by the miners with impunity. So ill-ventilated apartments which produce an oppression of the respiration to one first entering them from a purer air, do not produce this effect upon those who are habituated to them.

Where numbers are crowded together, much air is required, not only for the maintaining the respiration, but also for the sake of diminishing the augmented heat. Air entering a crowded apartment at 60° at the floor,

may acquire a temperature of 70° or 80° before it reaches the head; and Dr. Reid has often noticed a difference of 11° and 12° in winter between the temperature of the floor of the lower deck of a man-of-war, where the air was permitted to enter, and that of the atmosphere about five feet above on the same deck, where the hammocks were slung. Even in a dense crowd in the open air, on a dull or calm day, when no current of air is produced by the sun's rays, the atmosphere becomes perceptibly offensive and impure.

Upon the effects of a free or restricted supply of air upon the appetite for food, &c. Dr. Reid thus observes:—

"It appears to be universally admitted, that a low diet diminishes the necessity for much air, and that, on the other hand, where there is little air, there cannot be a great appetite for food. There are no periods accordingly, if we except a period of severe bodily exercise, where the constitution demands such a variety of supply as immediately before and after dinner; and, in the present state of society, a large share of the evil not unfrequently attendant upon a dinner party, does not always arise so much from individuals having taken more than their constitution requires, but rather from the vitiated air with which the system is usually surrounded at such periods."

In illustration of this opinion, a circumstance is related of a large party of Edinburgh philosophers being enabled to unconsciously consume many times more than their ordinary complement of wine, without any immediate or ultimate ill-effects, in consequence of the dinner being given in a properly-ventilated saloon. So, too, it is said, men have struck for wages in those manufactories where efficient ventilation has been established, in consequence of being unable to obtain the additional amount of food their improved appetites demanded. If this be not an exaggeration, we fear it offers little encouragement to augment the means of ventilation in the abodes, &c. of the humbler classes. People who have the greatest difficulty in obtaining the wherewith to satisfy the cravings of hunger already, have little need of the additional torture of a keener appetite. Indeed, in another part of his work, the author allows that fresh air must not be too freely introduced into the abode of misery, as there are other still more pressing and incompatible wants.

"Ventilation need not be expected where food, fuel, and clothing are deficient. Heat is still more essential to the human frame than fresh air, which consumes the body by slow combustion or oxygenation, when food is not supplied. Defective ventilation reduces the oxygenation, preserves warmth, stupifies the feelings, and allays the pangs of hunger. By reducing the power of oxygenating the blood, and of sustaining the temperature, it produces a condition which diminishes the relish and power of digesting plain and wholesome food. Unnatural stimuli, such as ardent spirits and opium, are required to excite the languid circulation, and make it feel, though only temporarily, that vigour of circulation which gives animation and vivacity to the intellect, as well as strength to the body. The actual state of the atmosphere, in the habitations of the extremely poor, is too bad and too revolting to be understood by any except those who actually visit them. There are unquestionably many exceptions, but in general, external cleansing, and an improved condition in their means and habits are essential, before any decided improvements can be extensively introduced. If draughts and currents are offensive to all, there are few who are more sensitively alive to them than those whose hunger, want of clothing, and want of fuel, reduces them to the lowest scale of misery." 40.

However unavoidable this may be with the destitute, there is another class of the community who turn foul air into current coin.

"Nowhere is the operation of a vitiated atmosphere seen more distinctly than in numbers of the refreshment-rooms in which this great metropolis abounds. Many a hard worked clerk too often imagines he has had enough for his support, because he has taken all that his appetite permitted; whereas the saturated atmosphere in which he dines may have reduced his appetite by a half, and made him contented with an inadequate supply. The profits in numerous such rooms, would diminish largely were they well ventilated, and were the appetite equally satisfied at the same time. But the subject is as yet very imperfectly known, and escapes, in a great measure, at present, the attention of both parties. Unquestionably, however, the landlord or proprietor of ill-ventilated refreshment-rooms has no right to charge at the same rate as those that have their apartments well ventilated." 182.

Speaking from former experience, we are inclined to think that the amount of food taken by the frequenters of the metropolitan eating-houses is amply sufficient for the inhabitants of cities, leading, as they for the most part do, comparatively sedentary lives; and as to the price, it seems surprising how so substantial a meal of good wholesome food can be furnished at so low a cost. We do not deny that a complete ventilation might much increase the appetite and the quantity of food taken, and the extent to which these both occur in the purer air of the country may be adduced; but we believe that, except among the poorest classes, the inhabitants of large towns already consume larger quantities of food than the demands made upon their system by habits of activity justify.

The air may be contaminated by various sources of impurity, especially in large cities, where these so extensively prevail; but the principal one, and that which most have to contend against, is the spoiling it by substituting carbonic acid gas for the oxygen removed in respiration, combustion, &c. &c. This substance, existing in the atmosphere as one part in two thousand is not to be looked upon in the light of an impurity, sufficing then only for the due supply of carbon to the vegetable kingdom. It is rare, however, to meet with air of this purity in dwelling-houses, and a far larger proportion is borne even with impunity. This has its limits.

"Some individuals work habitually in mines and other places, where from one to two per cent. and perhaps still larger quantities of carbonic acid are present. But death has ensued, in some peculiar cases, it is affirmed, where there was only one per cent. Any ordinary atmosphere containing one per cent. of carbonic acid must be regarded of very inferior quality, and not fit to sustain health, though in numerous apartments a much more vitiated air may be observed. Air containing 10 per cent. of carbonic acid, and other impurities of less note, a considerable amount of moisture, and at the same time a high temperature, constituted the most impure atmosphere charged with carbonic acid to which I have been exposed; nor am I aware that I could have resisted its action for any considerable period had its influence not been gradually developed, as the pure air in which the experiment began had successive quantities of carbonic acid communicated to it.

"When carbonic acid is present in smaller proportion than is necessary to produce an immediate and overwhelming effect, it induces a trifling headache or intolerable oppression in endless gradations, according to constitutional peculiarities, and different circumstances connected with the state of the atmosphere in which it acts." 200.

It is an error to suppose that carbonic acid gas, by reason of its greater specific gravity, is found at the lower part of an apartment or locality in which it is generated. It is only when in large quantities and in a concentrated state that it descends like water, and accumulates in cavities on the surface of the ground. It is thus found in large graves, in old wells and pits, in brewers' vats, in the Grotte del Cane, &c.; but by reason of the property of diffusion which gases of different specific gravities, brought in contact with each other, possess, no gas, however heavy, remains for any length of time at the surface of the earth, and thus carbonic acid gas has been found at the highest altitude yet reached by man. The superior heated or rarefied condition of respired or burned air causes it to ascend to the highest point in the apartment which is accessible to it, and thus it is at the upper parts of rooms, &c. and not below, where the fresh air enters, that the greatest amount of impurity exists.

If the apartments of private houses are insufficiently ventilated, public buildings, in which large numbers of persons occasionally assemble, are notoriously so. The supply of pure and the removal of vitiated air has hitherto formed no part of the architect's study; and, now that public attention has become roused to the necessity of this, alterations in buildings have to be effected at a great cost and in an imperfect manner, to produce the same effect which might have been provided for in the original construction of the building at little or no additional expense. The author signalizes churches as the buildings par excellence defective in ventilation, many of these containing no provision whatever for change of air, although much crowded, and in the evenings adding to the impurities and consumption of oxygen by powerful illumination.

"In those churches in which I have watched the progress of vitiated air, as the service proceeded, on individuals whose constitutions were not previously rendered dead to the influence of pure air by the atmosphere they were accustomed to at home, a slight and marked flush in the countenance usually appeared in a short time: this was soon succeeded by a sense of heat and oppression, and a tendency to sleep, more or less marked according to the condition of the atmosphere, and the extent to which the attention was engaged. The soporific influence was in some cases a source of annoyance to the conclusion of the service, but was succeeded in others by a re-action. The *vis medicatrix naturæ* did not remain inactive. The pulse rose, the circulation was accelerated, the brain became stimulated, and relief was at the same time afforded by the insensible perspiration (which had been arrested by the state of the air) becoming gross and sensible. Attention could now be sustained, but headache more or less severe was the usual consequence, and liability to dangerous colds and rheumatisms, where the body was suddenly exposed to the chilling influence of the external atmosphere, while still affected in the manner described."

These ill effects were always found, in a long series of examinations, most considerable where the proportion of carbonic acid gas was greatest. No means moreover are adopted to ventilate the church from week to week, or between the services, so that the congregation of the latter part of the day is breathing the foul air vitiated by that which preceded them; and those of them who sit in the galleries receive only the air already contaminated in the area.

Schools, again, of both rich and poor, but of course especially of the latter, are lamentably ill-supplied with air, which must powerfully contribute

to the production of ill-health among the young, who so particularly, during the condition of growth, require an efficient oxygenation of the blood.

To secure due ventilation, it would seem to be sufficient to provide means for the escape of air as fast as it is vitiated, the means of ingress being usually sufficiently abundant in ordinarily-constructed abodes to allow a sufficiency to enter to supply the place of that which is removed. In this way a continued movement of the air is produced, without which no ventilation can ensue. The slightest elevations of temperature are sufficient to induce such movement, by rarefying and causing the ascent of the air nearest the heated body, the colder surrounding air rushing in to supply the vacuum thus formed. The atmosphere, at a mean temperature and not agitated by wind, is warmed and expanded in this way (to about five degrees) on coming in contact with the human frame, and thus a current of air is constantly passing around it. The law of this motion of the atmosphere is thus stated. "The expanded warm air being always pressed upwards by any colder and denser air, and the movement being more or less rapid, according to the difference of temperature and amount of expansion between the air that is heated and the cold air in contact with it." Ventilation, however, at most seasons of the year, by no means consists in the simple admission of the external air, and expulsion of that which is vitiated. At all periods, the latter should be provided for, but the difficulty consists in the colder portions of the year as to the admission of the former—a due supply of warmth being as essential to health and comfort as a due supply of air. Numerous have been the attempts to combine the effectual warming and ventilation of apartments, but the success which has attended them has been by no means commensurate with the attention bestowed and expense incurred.

The ventilation and warming of an ordinary English apartment by means of the grate and open chimney has been condemned by all as ineffectual, partial, and expensive; and those who have suffered from the inequalities of temperature, the currents of air, and the long coal-merchant's bills incidental thereto, must acknowledge that the objectors have reason on their side. It is familiarly known that, while a person seated near a good fire is suffering from an excess of heat reflected upon his person in one direction, he is subjected to the impinging in another of currents perhaps ten or twenty or more degrees too cold: and that, while one individual a few feet from the fire place may be comfortably warm only, another as many yards may be suffering from cold. The large proportion of the heat generated which is wasted in passing up the chimney, needs no demonstration. With this loss of caloric, even ventilation is imperfectly attained. The heat of the fire, it is true, determines the upward movement of the air in contact with it, whose place is supplied by other portions, and the motion so produced causes a certain amount of ventilation. But the air which has been vitiated rises by its lesser specific gravity to the upper parts of the room, and as the aperture into the chimney is placed much below, it cannot penetrate downwards through the mass of colder, denser air which has entered by the doors, windows, &c., and much of which passes out, little changed from when it entered, and much less requiring renewal than the stratum at the upper part of the room. Still, with all the imper-

fections of this mode of warming and ventilating ordinary rooms, it is the best that has been yet devised for common use; and with the alterations of making a communication from the upper part of the room into the flue, so as to admit of the removal of the light vitiated air, and of rendering the aperture of the chimney below as small as possible, as indeed is done by the register stoves, so as to prevent the needless expenditure of heat, is not likely to be improved upon.

The advocates for the use of the varieties of *stoves*, as many of the German, Russian, and our own recent modifications, triumphantly point to the equability of temperature obtainable by the agency of these instruments, and the very small expenditure of fuel they produce. Sir GEORGE LEFEVRE, in the pamphlet indicated at the head of this article, attributes the great prevalence of phthisis in this country, and the comparative immunity enjoyed by Russia from this disease, to the greater care taken in the latter country to prevent inequalities of temperature by equably warmed rooms and appropriate clothing. He dwells with great force upon the comfortable condition of the interior of a Russian house even in the coldest weather, and contrasts this with the comfortless state of most English houses during winters of infinitely less severity, both as regards the inequality of warmth and abundant currents of air in any one apartment, and in the contrast offered by the temperature of the different ones, especially the bed-rooms, which in the Russian houses are, like indeed every part of the mansion, completely warmed.

"I have been confined to my room," he says, writing to a friend in Russia, "by an obstinate cough, to which I was always subject in the winter season while residing in England, but which I escaped during the whole time of my residence in St. Petersburg. I had no idea I should suffer so much from the cold, yet it is not from external cold, for I took the precaution of bringing my Russian furs with me. This was quite unnecessary; for, after all the trouble I had with them, I find that I cannot wear them here. I do not understand the reason of this apparent anomaly, for I have a thermometer in my window, and find that the same degree of cold here is much more supportable than in St. Petersburgh. I should not have dared to have ventured out without a pelisse in Russia, where I find a P. jacket quite sufficient here to keep me warm. It is certain that eight degrees Reaumur in London, are more supportable than two degrees in the imperial city. It is, however, of the indoor cold that I have to complain so bitterly, for indoor warmth is a phenomenon only to be found in such houses as are provided with stoves in the ante-room, and double windows, of which comforts, alas! I have had no experience since I left Russia.

"I am afraid you will be hardly able to read this scrawl, for I am writing to you in my bed-room, which is about the same temperature as your ice-cellars. The water is literally frozen in the jug, and I cannot see out of my windows, which are like ground-glass. * * * * It is enough to try one's temper to hear, as I do, when I complain of cold, that 'it is not so cold as in Russia'—that 'surely I ought to bear the cold better here than those who have never been exposed to severe cold.' When I come down to breakfast, with blue hands and swollen fingers, I am offered the slop-basin to dip them in. I limp as I walk—'You have chilblains, I suppose; they are common winter guests; how dreadfully you must suffer from them in Russia!' Yet I never heard of them, or certainly never suffered from them, during ten years that I sojourned there.

"What are most annoying to me are, the constant draughts which prevail in English houses. Every gust of wind makes the casements rattle, and if the

rain pelts against the windows, it penetrates through the sashes, and runs down upon the window-seat.

"The drafts from the windows are dreadful. Thus you hear of cricks in the neck from sitting upon the window-seat. It is not from above, alone, that these drafts prevail, although constant puffs of smoke do unceremoniously make their entrée. The legs and feet are also exposed to a cold air bath from draughts which come under the doors, and which make the carpet, if it be not fastened with nails, dance up and down. The drawing-rooms are somewhat more comfortable; but then, when a party breaks up for the night, it is cruel to mount two pair of stairs to go to a miserably cold bed-room. The gusts of wind in ascending the stairs are sufficient to blow out the candle. Then, if there be no warming-pan, the dread of the cold ague-fit which awaits you between clean fresh mangled sheets, is ever before your thoughts at night. When once warm in bed, I cannot imagine how it is that human nature can muster up courage enough to leave it, considering what awaits it upon doing so; as when you hear the rap at your chamber-door in the morning—'Your shaving-water, sir,' and you must get out of bed to take it from the intruding hand. How is it that, in spite of all this, I see so many rosy faces, such colour, such health? It is all attributable to 'fresh air and cold water.'

"But then poor Amelia, where is she? Since the commencement of the cold weather her cough has much increased, and I fear she will share the fate of her sister and younger brother. I shall persuade her friends to try a winter in St. Petersburgh, and the effects of Russian warm rooms. If my cough does not get better soon, I shall myself return, for I cannot stand the cold of this climate." 19.

The means the Russians adopt to secure their constantly equable temperature are the careful exclusion of the cold external atmosphere by double doors and windows and thick walls, and the generation of artificial heat within, whose dispersion is prevented in the same way. The latter is effected by means of stoves placed in the rooms and especially in the halls, which, contrary to what prevails with us, are the warmest parts of the house. The humbler peasant caulks the spaces between the logs of which his hut is composed with moss or oakum, so as utterly to prevent air penetrating any crevice, however small. His door is well closed, and his window-frames double. He has his stove in the corner of the room, the smoke escaping at the roof. The heat generated would be quite insupportable to those unaccustomed to it, and may be judged of by the fact, that "the flies, congregated in some corner, hang down like a swarm of bees, happy and buzzing in the Winter season." When the Russian quits his hot-house temperature for the external air, he covers himself with the warmest furs, and the greatest number of pelisses, &c. his means allow him to possess, or the severity of the temperature demands. His bed-room is warmer in Winter than Summer, he can undress at leisure, and finds himself amply covered by a common quilt and single blanket.

Before regretting the absence, and considering the propriety of imitating these contrivances in our own country, we must observe that it is placed in different circumstances to Russia. In Russia, a Winter of dreadful severity, and a long, unvaried, continuance of a very low temperature, are the evils to be provided against, and present death and destructive disease would prevail if ampler means of doing this did not exist there than with us. But the adoption of such means are attended with disadvantages,

The Russian, of all men, is the most susceptible of cold, owing to the hot-house temperature he accustoms himself to, and is far less able to resist its influence, and is obliged to fly to protective clothing far sooner than the inhabitant of temperate climes does at even the same temperature. Upon a large scale, the same effect is produced as with us results on a small scale, from *coddling* by excessive precaution. The least exposure unprotected is followed by serious evil, and that this is not the case in Russia arises from the care with which such exposure is carefully guarded against. Again, the impurity of the air which this system engenders is obvious. The great object of the Russian is to exclude the external air as far as possible, and he prefers continuing to respire vitiated air to the freer admission of a colder and purer atmosphere, so that among the lower classes asphyxia is by no means uncommon, and, in all, the rooms have a close, and, what we should call, unhealthy smell. It is true the rich man can have his house so constructed as to admit a sufficiency of air through his heated hall and corridors, so that it arrives in his sitting and bed-rooms in considerable quantities, but this cannot be the case with the majority. In England, we have to provide against not a long-continued severity of climate, but a great variability. If, by the heated rooms of the Russians, we augmented our susceptibility to the influence of cold, we should only increase our liability to disease, seeing that we know not when a change to a lower temperature may take place, and are often unable to provide for it by artificial heat or appropriate clothing. We doubt not that the vicissitude of our climate is a leading cause in the production of consumption, but we do not believe its operation would be less prevented, but, on the contrary, increased by adopting this hot house mode of life. More is to be even gained by accustoming ourselves to the varieties which in ordinary active life are unavoidable, and even the drafts of common dwelling-houses in this way have their advantage, and would be attended with much less evil if women, who form the majority of victims of phthisis, would cover the upper parts of their persons more completely, and their feet more warmly, than is customary. It is the neglect of this and their inactive habits that render them so extremely susceptible. Still, with the delicate and affluent, who can devote their whole attention to their health, and whom circumstances do not oblige to risk the vicissitude of the external air, when threatened by consumption, the adoption of the warm-air rooms or a visit to Russia for the Winter, where certainly house-warming is in perfection, may be desirable; and in traversing our passages the Respirator is as necessary for such as when they go into the open air. In spacious houses, having halls and passages, stoves are very useful in mitigating the change of temperature in passing through them, and might easily be rendered available for warming all the air which enters the house. But the introduction of stoves into sitting-rooms we consider objectionable, as they do not secure that ventilation which is necessary for health, and when made too warm, augment the susceptibility to cold upon exposure to it. We believe that much of the healthful appearance and superior health of the English people depends upon their free exposure to pure air; and pallid countenances and a proportionate increase of mortality are found to prevail in localities where such exposure is impossible or limited.

Upon the Fire-place, Dr. Reid has the following observations.

"The peculiar advantages of a fire-place are not merely its power of warming an apartment, the circulation of air which it induces, its accessibility, and the influence of the air which it evolves: but the very grateful effect which it produces, after the body has been chilled by any special cause, whether in-doors, or out of-doors, stimulating it and exciting the circulation to the greatest degree which may be considered agreeable, and permitting each individual to adjust the distance which is most suitable to his own constitution, and the previous exposure to which he may have been more immediately subject. The light, also, is not to be considered a mere nominal advantage, but a real and positive benefit, affecting the whole system by its physical action, independently of the cheerful impression which its liveliness is calculated to excite; and which, to many, is so engaging, that they feel as if they were not alone when they have the company of a glowing fire. These considerations will probably always sustain the open fire-place, in countries where fuel can be procured with sufficient economy: but its disadvantages, in other respects, compared with the stove, are marked, particularly its expense, its local action, the dust it is apt to produce, and the frequent attendance it requires." 201.

Dr. Reid observes that, where much iron is employed around an open fire, it robs it of so much of its heat and communicates it by conduction to the air passing up the chimney, that the fire rarely burns brilliantly.

To this author's observations upon the ventilation of the House of Commons, and other large edifices, we can only refer as containing a masterly demonstration of the subject, which, owing to the profuse illustration by diagrams, (these are found, indeed, in great abundance at almost every page of the book,) becomes easily intelligible to even an unprofessional reader.

The first chapters of Sir George Lefevre's little work, treating of the benefits of greater attention being turned to warming rooms, and the employment of appropriate clothing, of the regimen and climate for those threatened with consumption, and of the value of the stethoscope, contain very useful information, calculated to be of use to the general reader. But we consider he has committed a mistake in appending the last; viz. observations upon the treatment of Pleurisy. Not but that this chapter contains matters good in themselves, but very improperly placed. This is, in fact, the error of most writers who address the public upon subjects relating to medicine; for, not content with addressing admonitions frequently invaluable as to the *prevention* of disease, and which we have alluded to with pride at the beginning of this article, they must also learnedly discourse on the treatment of diseases, and the various appliances of medicine, which a professional education is required for comprehending, much less acting upon. If attempted to be acted upon by the public, every one must see that danger must result; and if the public are expected not to meddle with them, why place them in their way? But, as we have said, although we object to comprising in a book, professing to give "popular hints for preservation from coughs, colds, and consumption," observations upon pleurisy, aqua laurocerasi, and tinct. digitalis, yet the observations themselves are very useful, and must, therefore, be rescued from their ill-assorted company.

In the opinion expressed of the limited use of the *stethoscope* in gene-

ral practice we agree, believing, that, for practical benefit to be derived from it, its use must be limited to a few consulting practitioners, possessed of frequent and constant opportunities of keeping up and improving their knowledge of its powers. In the hands of some it has been made an instrument of gross quackery and pretension.

"Constant practice can alone make perfect in this particular; and how is this to be obtained by the generality of practitioners, who have not the advantage of hospitals or large bodies of patients, upon whom they can prosecute their inquiries? Moreover, it appears to me, that a delicate sense of hearing, such as many do not possess, is a *sine qua non* for the investigation. The susceptibility to variety of sounds is not the lot of all, and those who do possess it, cannot do so at all times and under all circumstances.

* * * * * *

"Professional mistakes, with respect to the termination of lung diseases, have been at all times common, but perhaps the public may think them less warrantable, where those means of investigation have been employed to which they attribute more importance than is really due to them: for many look upon this procedure as infallible, and elevate the instrument to the dignity of a mariner's compass. The ear may be of great use in the diagnosis of disease, and should certainly be employed in all cases where it can be fully depended upon; but we were pleased with the observations of one of the most distinguished members of the British faculty, and one perhaps more consulted than any in the metropolis, who stated to us, that he employed the stethoscope rather to confirm his preconceived opinion of a case, than to form one by this means. I am not disposed to disparage—nay, I must avow that I have witnessed the most brilliant feats in the field of diagnosis, from a thorough acquaintance with mediate auscultation, and I believe that no practitioner stands higher in reputation of this kind than Dr. Seidlitz of St. Petersburgh, the advantage of whose superior abilities I enjoyed in consultation during my residence in that capital; but I do believe the instrument is calculated to do harm to any but adepts; and that long study, continual practice, and certain physical advantages, are indispensable to employing it with advantage."

Pleurisy, &c.—Although the author states consumptive diseases are rare in Russia, inflammatory affections of the lungs and pleura are very common. He believes them to be more tractable than they are in our latitude, on account of the equable warmth of the apartment in which the patients are kept, preventing any currents of air; but, on account of the great contrast of the temperature of the apartments to the external air, the convalescence is a very tedious one—so that a patient attacked by serious disease at the commencement of Winter, seldom finds himself well prior to the ensuing Spring. Sir George employs bleeding in moderation, but speaks very approvingly of the German remedy, *muriate of ammonia*, in pleurisy, subacute inflammation of the lungs, and chronic congestions of the mucous membrane. The following is the formula the author has frequently employed it in, with very great advantage.

℞. Ammonia Mur. ʒj.
Ex. Glycyrrhiz. ʒiij.
Ant. Tart. gr. ij.
Aq. destillat. ℥viij. coch. 1 2dis horis.

When nausea appears, the antimony is to be withdrawn, and is often

not required at all. Stomach-coughs are benefited by it; where the tongue is loaded it soon cleans it. Many affections of the mucous membranes, as sore throat, enlarged tonsils, relaxed uvula, &c., are benefited by it. For catarrhal affections, especially in children, the following is useful. ℞. Syr. Althææ ʒ ij. Vin. Antimon. ʒ ij. Teaspoonful or two every hour or two. In aggravated cases of cough, with little expectoration and much dryness of skin, the following combination is a good one:— ℞. Tinct. Digitalis, Liq. Ant. Tart., Aq. Lauro-ceras. āā ʒ j. Dose from 30 to 40 drops, four or five times a day, in a pectoral tea prepared from various simple herbs.

The Germans have the same prejudices against the use of purgatives as the French. They employ tartar-emetic very successfully as a counter-irritant. A drachm mixed with Burgundy pitch is spread on leather, and applied to the chest or between the shoulders. It produces intense irritation. The *aqua lauro-cerasi* is much used by the Germans, and is deservedly esteemed by them, acting as a *calmant* in spasmodic affections. The dose may be increased from 10 to 60 drops. "It is very useful in spasmodic affections of the stomach, in hypochondriac uneasiness, in hysteria, combined with pain of the uterus. Some mental affections from over-excitement are much relieved by it; I have found it very useful in calming the pain arising from the passage of inspissated bile and small biliary calculi." The following caution is worthy of imitation by us.

"The druggists in St. Petersburgh are compelled to retail all medicines which are poisonous in small doses, in dark blue bottles, and all the labels are of the same colour. A piece of paper upon which is printed 'for external use,' is pasted upon the foot of the phials containing liniments, lotions, &c."

The author concludes with the following observations upon the German therapeutics.

"German therapeutics hold a middle rank of action between the French and the English, being more energetic than the former, and less so than the latter. The Germans boast of a simplicity of prescription, and have a horror of contrarities, carrying this to a ludicrous nicety and an unmeaning orthodoxy. Thus, a solution of sulphate of magnesia in an infusion of roses, or the combination of a laxative with an astringent, meets with the severest criticism from those who profess as much abhorrence of a contresens in prescription as Nature does of a vacuum.

"Unless in form of decoctions, which contain certainly the essence of a large proportion of the vegetable kingdom, and are favourite remedies, a German prescription rarely boasts of more than two or three ingredients. Nothing is considered inert unless it be distilled water, and if active remedies are administered in a variety of other menstrua, the latter are not chosen indifferently, but with a specific view; and to perform a part in the operation of the whole. One carminative water cannot be substituted with impunity for another, it being granted that each has a specific action upon the system. In respect to the influence of minute doses, the Germans countenance the practice of homœopathists. Their ideas (well or ill-founded as they may be) of infinitesimal doses, are illustrated in the preparation of a decoction much esteemed for the cure of eruptions which disfigure female beauty, and which is administered freely in the Spring. It is composed of sarsaparilla, dulcamara, tops of the pine, beetroot, buds of the beech-tree, &c.; but the most active ingredient is a small piece of glass of antimony, tied up in a muslin bag, and boiled for a limited time only in the decoction,

which is supposed to be impregnated by it, although it may have lost no weight in the operation."

The above extracts, we repeat, are interesting to medical readers, but are ill-fitted for general perusal.

CRANIA ÆGYPTIACA; OR OBSERVATIONS ON EGYPTIAN ETHNOGRAPHY, DERIVED FROM ANATOMY, HISTORY, AND THE MONUMENTS. By *Samuel George Morton*, M. D. Author of Crania Americana, &c. &c. Philadelphia, 1844. London, Madden and Co.

OUR readers will remember that, in a former number of this Journal, we gave some account of Dr. Morton's Researches on American Ethnography. He has lately taken a bolder flight, and explored the dark chambers of the Catacombs, the Pyramids, and the mouldering monuments of that Cradle of the Arts, that Parent of Civilization, that Land of Mystery—EGYPT. Were it not for the sepulchres of a country whose history confounds chronology, the very people who thronged her cities would be unknown to us. But those numberless vaults have given up their dead for ages past, and will for ages to come, to bear witness for themselves and their country. Little did the kings, queens, and magnates of Egypt believe or suspect that their carefully embalmed bodies would be sacrilegiously unrolled and unswathed, thousands of years after sepulture, to gratify the curiosity of antiquarians, and embellish the walls of museums in countries of which they never heard even the names!

Notwithstanding the innumerable resurrections of mummies from their receptacles on the banks of the Nile, yet still the physical characteristics of the Ancient Egyptians are regarded with great diversity of opinion by the learned antiquarians, who variously refer them to the Jews, Arabs, Hindoos, Nubians, and even the Negroes. The details of organic structure have been involved in the same uncertainty—and the great problem is still unsolved—did Civilization ascend or descend the Nile? Did Egypt or Œthiopia give it origin? Our author was fortunate in the friendship and the industry of G. R. Gliddon, Esq., who resided long in Egypt, as Consul for the United States, and who, in the course of his travels, both in Egypt and Nubia, procured 137 human crania, of which 100 pertain to the ancient inhabitants of Egypt. Of these last, seventeen were sent to Dr. Morton through the medium of Clot Bey—who arranged them in two series, the Pharaonic and the Ptolemaic. The object of this, our author's memoir, is, therefore, to throw some additional light on the questions above stated, and to ascertain, if possible, the Ethnographic characters of the primitive Egyptians—or, in other words, to point out their relative position among the races of men.

This investigation is carried on with most laborious industry, and illustrated by numerous—we had almost said innumerable, plates and wood-

cuts, without the aid of which, the reasonings and arguments could not be understood. This memoir is so carefully worded—so terse and concentrated in itself—so constantly elucidated by the plates, that it is totally incapable of analysis or compression. Neither can we, by a series of extracts, convey any thing like an idea of this vast investigation. One only extract can we make, showing something like the plan of the curious and highly interesting volume before us.

EGYPTIAN ETHNOGRAPHY.

"It was remarked fifty years ago by the learned professor Blumenbach, that a principal requisite for an inquiry such as we now propose, would be 'a very careful technical examination of the skulls of mummies hitherto met with, together with an accurate comparison of these skulls with the monuments.' This is precisely the design I have in view in the following memoir, which I therefore commence by an analysis of the characters of all the crania now in my possession. These may be referred to two of the great races of men, the CAUCASIAN and the NEGRO, although there is a remarkable disparity in the number of each. The Caucasian heads also vary so much among themselves as to present several different types of this race, which may, perhaps, be appropriately grouped under the following designations:—

CAUCASIAN RACE.

"1. The *Pelasgic Type*. In this division I place those heads which present the finest conformation, as seen in the Caucasian nations of western Asia, and middle and southern Europe. The Pelasgic lineaments are familiar to us in the beautiful models of Grecian art, which are remarkable for the volume of the head in comparison with that of the face, the large facial angle, and the symmetry and delicacy of the whole osteological structure.

"2. The *Semitic Type*, as seen in the Hebrew communities, is marked by a comparatively receding forehead, long, arched, and very prominent nose, a marked distance between the eyes, a low heavy broad, and strong and often harsh development of the whole facial structure.

"3. The *Egyptian* form differs from the Pelasgic in having a narrower and more receding forehead, while the face being more prominent, the facial angle is consequently less. The nose is straight or aquiline, the face angular, the features often sharp, and the hair uniformly long, soft, and curling. In this series of crania I include many of which the conformation is not appreciably different from that of the Arab and Hindoo; but I have not, as a rule, attempted to note these distinctions, although they are so marked as to have induced me, in the early stage of the investigation, and for reasons which will appear in the sequel, to group them, together with the proper Egyptian form, under the provisional name of *Austral-Egyptian* crania. I now, however, propose to restrict the latter term to those Caucasian communities which inhabited the Nilotic valley *above* Egypt. Among the Caucasian crania are some which appear to blend the Egyptian and Pelasgic characters: these might be called *Egypto-Pelasgic* heads; but without making use of this term, except in a very few instances by way of illustration, I have thought best to transfer these examples from the Pelasgic group to the Egyptian, inasmuch as they so far conform to the latter series as to be identified without difficulty.

NEGRO RACE.

"The true *Negro* conformation requires no comment; but it is necessary to

observe that a practised eye readily detects a few heads with decidedly mixed characters, in which those of the Negro predominate. For these I propose the name of *Negroid* crania; for while the osteological development is more or less that of the Negro, the hair is long but sometimes harsh, thus indicating that combination of features which is familiar in the mulatto grades of the present day. It is proper, however, to remark in relation to the whole series of crania, that while the greater part is readily referrible to some one of the above subdivisions, there remain other examples in which the Caucasian traits predominate, but are partially blended with those of the Negro, which last modify both the structure and expression of the head and face.

"We proceed, in the next place, to analyze these crania individually, arranging them, for the purpose of convenience, into seven series, according to their sepulchral localities, beginning with the Necropolis of Memphis in the north." 4.

We strongly recommend Dr. Webster's volume to the perusal of every one who is curious respecting the races that have lived and died in the Valley of the Nile.

PHYSIOLOGISCHE, PATHOLOGISCHE UND MEDICINISCH-PRACTISCHE UNTERSUCHUNGEN UBER DIE SPINAL IRRITATION. Von Dr. *Stilling*. Leipzig, 1840.

Physiological, Pathological, and Practical Investigations regarding Spinal Irritation.

ABHANDLUNG UBER SPINAL IRRITATION. Von Dr. *Ludwig Türck*. Vienna, 1843.

Treatise on Spinal Irritation.

WE find that the latter of the above works contains in itself a very neat and succinct analysis of the former, which was sent into the world in 1840 by Dr. Stilling, who is now celebrated for his writings on nervous disorders in general.

It has been recently observed, that in certain of the neuroses, more especially in hysterical states, a greater or less extent of surface of the parts along the vertebral column becomes painful on pressure and on being touched with a hot sponge; it was also observed that these states were frequently removed, or at least considerably relieved, by abstraction of blood, counter-irritation, &c., along the painful vertebræ; this very naturally led medical men to seek the cause of those nervous symptoms in a state of irritation of the spinal marrow; the affection itself receiving the name of *spinal irritation*. Among others, Dr. Türck was led to institute a series of observations on this subject, the results of which are given in the volume now before us. The cases where the spinal irritation is to be considered merely as a reflexion of other diseases existing in the organism he treats of under the head of "*Symptomatic Spinal Irritation*;" whilst those cases wherein this affection still continues after the extinction of

the primary disease, or where its dependence on some disease existing elsewhere cannot be demonstrated, he treats of under the title of "*Idiopathic Spinal Irritation.*" The exposition of the facts observed by him is followed by an investigation into their nature. We shall here present to our readers a concentrated analysis of this volume. It was already observed by several that by pressure, even by mere rubbing of the sensitive parts along the spinal column, some symptoms present in spinal-irritation were aggravated; this has been observed with respect to pains in the head and in the eyes, in the scrobiculus cordis and chest, with respect also to cough, a sensation of cold, stiffness of the arms, and pain in the neck; also in some cases, which belong to the division under idiopathic spinal irritation. The aggravation or recalling of symptoms by vertebral pressure, the author designates in his treatise by the term "reflection," and the parts along the vertebral column, where the pressure produced this effect, he calls reflex-parts.

FIRST SECTION.

1. *Symptomatic Spinal Irritation.*

A. *Diseases of the Digestive Apparatus.*—In some cases of caries of the back and incisor teeth and in inflammation of the gum, the pains were reflected through the second down to the third cervical vertebra and the soft parts adjacent to the affected side. In gangrene of the mouth connected with violent inflammation in consequence of swallowing sulphuric acid, the painful constriction behind the larynx was reflected through the fourth to the sixth cervical vertebra. In *gastricism, febris gastrica*, the frontal and supra-orbital pain was reflected through the superior fourth down to the fifth cervical vertebra, attended on one occasion with a peculiar disagreeable sensation in the stomach and a disposition to vomit. In another case, the disagreeable sensation in the stomach was reflected through the last cervical and first dorsal vertebræ. Acute, pungent pains of a higher degree in the epigastrium were reflected with great sensibility to external pressure through the last third or fourth dorsal vertebra; where the pains were less, this did not occur. On one occasion temporary numbness of the left arm was present. In a case of sporadic cholera in a hysterical patient, violent, colicky, constringing pains, increased on pressure, were felt all around the abdomen, which were reflected with severe pungency in the last ribs of the left side through the very sensitive lumbar vertebræ; the respiration was frequent, there was frequent dry cough and dyspnœa at the same time, the last with reflection through the inferior half of the dorsal vertebræ; pulse not very frequent, urine pale. In typhus, vertigo, tinnitus aurium and headache were reflected through the superior half of the cervical vertebræ. The sensation of dryness of the tongue and thirst were increased once or twice by pressure on from the fourth to the sixth cervical vertebræ; the pasty, bad taste in the case of loaded tongue in the first stage of the disease was on one occasion almost entirely removed thereby. Delirium, feeling of weakness, tremors and singultus were without any reflection. In inflammation of the peritoneal covering of the liver, in increased sensibility, and tenseness in the region of the left lobe, with icteric and gastric phenomena, the acute pain in the right humeral and clavicular

region and numbness of one extremity was reflected twice through the fourth and fifth dorsal vertebræ, once through the last cervical vertebra; in the same case also the pain in the hepatic region was reflected through the first dorsal vertebra.

B. *Diseases of the Organs of Respiration and Circulation.*—Dryness, pungent pain in the larynx, as also hoarseness, which accompanied the other symptoms in tuberculosis, were reflected through the fourth or fifth last cervical vertebræ. Tickling at the bifurcation of the bronchi, and teazing cough, such as attends catarrh and tuberculated lungs, were reflected through from the third to the seventh cervical vertebræ. The head-symptoms observed most frequently in pneumonia were: acute pain in the forehead and temples, heaviness in the frontal region, tinnitus aurium, with reflection through the superior cervical vertebræ, at most as far as the fifth; delirium with vertebral reflection. If several of these were present at the same time, and were reflected by pressure on one and the same place, then, when great debility was present, with dryness and heat of tongue and skin, they formed the perfect idea of the so-called *nervous state*. In one case there was, with acute pain in the frontal region, intolerance of light, a sensation of pressure and heat in the eyes, the latter symptoms attended with reflection through the last cervical vertebræ; in another case, the sensation of itching in the thoracic region on the side corresponding to the seat of the pneumonia, with reflection through the last cervical vertebra, on two occasions vertigo with reflection through the highest part of the vertebral column beneath the occiput; on one occasion, a risingof heat in the cheek with reflection through the first dorsal vertebra. Pungent pain at the sternal extremities of from the second to the sixth costal cartilage combined with the sensation of pressure at the same places and at the sternum, was frequently increased on pinching the skin of those parts, and felt as if it were deeply seated; further it came along the cartilaginous margins of the false ribs; lastly in an extent of from one to two inches in length at the free extremities of the last ribs, once at the inferior margin of the seventh and eighth ribs along their entire course, the intercostal spaces being free from pain, once only at the curvature of the sixth and seventh ribs; it was generally increased by pressure on the painful parts, and was reflected through the vertebræ corresponding to the ribs affected over these and through the adjacent soft parts. The sensation of pressure on the sternum, commonly on one or both margins of the same, and on the sternal ends of from the second to the ninth costal cartilage, which was frequently combined with acute pains in these parts, was, as well as the latter, reflected through the corresponding dorsal vertebra. In two cases dyspnœa, where it was the only subjective thoracic symptom, was reflected through the inferior cervical and superior dorsal vertebræ; in one of these cases the reflexibility extended from here downwards as far as the inferior dorsal vertebræ; it occurred in general accompanied by pain and pressure on the chest, and was reflected along with them; frequently the reflexibility for the dyspnœa was more extended than for the other thoracic symptoms; it was, however, almost invariably greatest at the last cervical and superior dorsal vertebræ. The author observed, both in pneumonia as well as in other diseases connected with dyspnœa, that by pressing on the

reflex-parts of the dyspnœa the patients were less able to take a deep inspiration. On one occasion, in a very sensitive young man, cough was reflected through the inferior cervical and superior dorsal vertebræ, and indeed with such violence, that he gave over the examination on the other vertebræ. Not rarely was the epigastrium very sensitive on pressure, and the seat of very severe, acute pains in two cases, which were increased during inspiration, and often by pinching the skin, or gently rubbing it in the above-mentioned regions, and were felt as if they were very deep-seated. They extended to the adjoining costal cartilages as far as the hypochondria, occurred most frequently in the case of pneumonia of the right side, and were reflected through the upper dorsal vertebræ, at most as far as the sixth or eighth, once however through the inferior dorsal vertebræ, being generally accompanied with dyspnœa. Pungent pain in the left lobe of the liver was frequently combined with pains in the epigastrium; this pain did not admit of pressure; nor was it ever reflected. In two cases the painfulness on pressure extended over the principal part of the abdomen. On one occasion there were tolerably intense pains along the last five ribs, and in the adjacent muscular parts, and still deeper in the lumbar region, from whence they extended along the crest of the ilium as far as the inguinal region; they were at the same time increased by pressure on the painful parts, and reflected through the lumbar vertebræ corresponding to their seat, and, as well as the increased sensibility of the abdomen, were present only on the side corresponding to the seat of the pneumonia. Numbness of the extremities was no rare occurrence; it affected either all the four extremities, or only those of one side, twice only the right arm. In this case, as well as where merely the upper or lower extremity of the right side participated, inflammation of the right lung with pain in the epigastrium and left lobe of the liver was constantly present along with the bilious phenomena already mentioned; in two such cases there was associated pain in the right clavicular and lateral cervical region, once also in the trachea and larynx, with reflexion through the last cervical and superior dorsal vertebræ. *In turberculated lungs* the head and thoracic symptoms were about the same as in pneumonia. The sensations of pain, dryness, constriction in the larynx, as well as the hoarseness, were reflected through the last fourth or fifth cervical vertebræ. The abdominal symptoms observed in pneumonia were not observed here by the author. The author continues to consider the various reflexions accompanying hæmoptoe, pleuritis, endocarditis, &c. He then proceeds to the consideration of *Idiopathic Spinal Irritation*, and the first example he gives of that is *Febris Intermittens*. The instances of reflection in the stages of this disease being neither numerous nor interesting, we shall pass on to the next affection noticed by our author, viz. hysteria; in this affection the prominent symptoms, as pain in the frontal and supra-orbital regions, pains in the back of the head and vertex, vertigo, sensation of heat ascending from the back of the head over the vertex as far as the forehead and cheeks. dimness of vision, &c. were in the generality of the cases usually combined the one with the other, and were at the same time reflected, and chiefly through the superior cervical vertebræ; frequently the capability of reflexion extended itself from thence over the chief part of the cervical, and often of the dorsal vertebræ. Sometimes delirium set in without

reflexion. The feeling of constriction in the neck was reflected by from the fourth to the sixth cervical vertebræ. The dyspnœa with other thoracic symptoms was reflected for the most part through a greater or less number of the dorsal vertebræ.

Our author now proceeds to the SECOND SECTION, *in which he attempts to account for the phenomena of Spinal Irritation.* He states, of spinal irritation in general, that it arises for the most part from this circumstance, viz. that the spinal marrow becomes abnormally affected either through the nerves passing through it from the organ originally diseased, which may be called excitory nerves, or through the blood circulating in its capillary vessels.

This affection, or irritation, as we may call it, extends farther from the insertion places of the excitory nerves in the spinal marrow, and produces, by touching the places where other nerves arise, various nervous symptoms whose apparent seat is in the parts supplied by these, whilst they solely result from an affection of the central extremities of the nerves, and are accordingly excentric phenomena. By the irritation extending to the spinal origins of the sensitive nerves of the posterior parts of the neck and trunk, *i. e.* of the dorsal nerves, it produces spinal sensibility. The chief arguments adduced in support of this view by Stilling, are: 1. Pain on pressure manifests itself in vertebræ as immoveable, and where, therefore, the pain cannot be the consequence of a mechanical effect produced on the spinal marrow by locomotion of the vertebræ. 2. The spinal pain is often occasioned, not by pressure on the vertebræ, but on the soft parts lying near it. 3. It is frequently occasioned by gently touching the skin in the vicinity of the vertebræ. The reflexion of the symptoms is accounted for, in fine, by the propagation of the excitement occasioned by pressure in the sensitive dorsal nerves, through the medium of the spinal marrow as far as the origins of those nerves, which are the seat of the reflected symptoms. (The latter, the author calls reflex symptoms, and the nerves, which are their seat, reflex nerves.) Between the reflex symptoms an essential distinction is to be made; some being excentric phenomena, a mere effect of spinal irritation, as, for instance, numbness of the extremities in pneumonia; whilst the others are no more than mere sensations, which have their seat in the organ primarily diseased (as for instance, pains in the ovaries or ovaritis); as the nerves of these organs produce spinal irritation in the parts where they are connected with the spinal system, it happens that the latter symptoms are reflected. The latter, therefore, are called *improper*, the former, on the contrary, *proper reflex symptoms.*

The seat of Spinal Irritation corresponds ordinarily with the painful or reflecting parts in the Spine; the reason of which is this, that the posterior branches of the spinal nerves, which give off the sensitive dorsal nerves, have generally a very short course, and accordingly their branches as well as their peripheric ramifications, both of which may be affected by dorsal pressure, are placed in the proximity of their origin from the spinal marrow.

According to the view now given of Spinal Irritation, the spinal marrow presents the middle point of the affection. On the contrary, the

phenomena of spinal irritation may be understood in many cases, even if we leave the spinal marrow altogether out of consideration. It is known that the spinal nerves are formed of an anterior motor, and a posterior sensitive root, furnished with a ganglion; the common trunk of every spinal nerve, hence arising, contains one or more fibres of the sympathetic nerve which lies near it, which, enclosed with it in a common sheath, run along to the roots, and so come in contact with the ganglia of the sensitive roots. In those cases of spinal irritation where the fibres of the sympathetic nerve are excitor nerves, one may represent to himself, that these fibres, as they enter the spinal ganglia, create an irritation there, which becomes transferred through the medium of the grey ganglionic substance to the fibres of the sensitive nerves placed in juxta-position in these ganglia, whereby the occurrence of the reflex symptoms, the spinal sensibility and the reflexion are accounted for, because both the fibres of the reflex, as also those of the sensitive dorsal nerves, pass through the ganglia already mentioned.

The presence of sympathetic fibres in the spinal marrow, as demonstrated by Remak, does not invalidate this explanation; for—1, it is possible that only a part of the sympathetic fibres goes to the spinal marrow, and another terminates in the spinal ganglia; and, 2, if all the sympathetic fibres merely passed the spinal ganglia, a transference might be conceivable through the medium of the grey substance of these ganglia to the fibres of the sensitive spinal nerve.

In those cases, on the contrary, where the sensitive spinal nerves are excitors, it is extremely probable that the spinal marrow is the seat of the irritation, and this may be inferred, almost with certainty, from the presence of certain motory symptoms, a circumstance which makes one very much disposed to suspect an affection of the spinal cord in all cases of spinal irritation, but which, however, cannot serve to prove this assumption, as it must now be deemed possible, that even in one and the same patient certain phenomena depend on irritation of the spinal cord, whilst others owe their origin to a mere affection of the spinal ganglia.

Trigeminus Symptoms.—From circumstances mentioned by the author, in his Sketches of Disease, he infers that various painful sensations in the frontal and temporal regions, and in the eyes, in cases of gastric fever, ophthalmic inflammation, and inflammation of other organs attended with fever, hysteria, &c. are reflected through the upper cervical vertebræ, more especially from the first to the third. Considering the moveability that exists between the first and second cervical vertebræ, one would feel tempted to ascribe this to a locomotion of the medulla oblongata occasioned by pressure, or of the parts of the brain thereby affected: it militates, however, against this view, that in many cases reflexion occurred, not through the uppermost, but through the third and fourth vertebræ, and it frequently followed on light pressure or on pinching the skin; accordingly, in the cases instanced, spinal irritation was present in the region of the superior cervical vertebræ. Stilling maintains the above mentioned symptoms to be excentric phenomena, dependent on irritation of the *n. trigeminus*, the sensitive nerve of the head, whose roots in the spinal marrow reached as far as the region of the second cervical vertebræ. He supports these assertions by Magendie's experiments. He saw division

of the *n. trigeminus* on one side in dogs followed by anæsthesia of the corresponding half of the face; the same thing happened, according to him, after dividing the spinal marrow on one side above the second cervical vertebra; this, however, was not the case, when the division was carried deeper down between the second and third vertebræ. These experiments, and the conclusions drawn by Stilling, accord very well with the pathological facts observed by the author; for, if certain head-symptoms depend on irritation of the roots of the trigeminus reaching into the region of the second cervical vertebra in the spinal marrow, the spinal sensibility, and the capability of reflexion in this region are accounted for in a very simple way. Notwithstanding, Stilling's view of the matter is not to be considered as proved; for, in the first place, admitting the correctness of Magendie's experiments, these were made only on dogs; in the second place, the roots of the sensitive portion of the *n. trigeminus*, though they have been traced as far as the *corpus restiforme* of the medulla oblongata, have not been traced any farther down; in the third place, the connexion of the head-symptoms above-mentioned with spinal irritation in the superior cervical vertebræ may be directly accounted for without any affection of the origins of the trigeminus in the same way as the author already accounted for the phenomena of spinal irritation without the intervention of the spinal marrow at all, by substituting the *Gasserian ganglion* for the spinal ganglia. For if it be admitted that the spinal irritation in the upper cervical ganglion is not occasioned by any irritation of the spinal marrow, but is an affection of the uppermost cervical ganglion of the n. sympatheticus, the occurrence of the head-symptoms is accounted for by the extension of the irritation from the above-mentioned ganglion to the *Gasserian ganglion* through the medium of the connecting fibres existing between both, but the spinal sensibility and capability of reflexion in the upper cervical vertebræ is then a consequence of the extension of the irritation from the uppermost sympathetic ganglion to the posterior sensible roots of the four superior spinal nerves, to which it is known there are sent connecting twigs.

The Reflexion of the pain in carious teeth, and in *neuralgia alveolaris*, through the superior cervical vertebræ, may be easily understood from the preceding, the dental nerves being branches of the trigeminus.

The Reflexion of pain as well as the sensation of heat on the vertex and occiput in hysterical patients, through the superior cervical vertebræ, is accounted for by the circumstance, that the skin of the above-mentioned regions is supplied in a great measure by the second spinal nerves, and partly, too, by the *n. trigeminus*.

In the same manner the other reflex symptoms are accounted for anatomically, as they occur in different parts of the body. We have given an account of these investigations, to put our readers au niveau of the notions of the day. For our own parts, we do not hesitate to own ourselves incredulous respecting them.

On Regimen and Longevity: comprising Materia Alimentaria, National Dietetic Usages, and the Influence of Civilization on Health and the Duration of Life. By *John Bell*, M.D.

The object of this little work is stated to be, to set forth the conditions and attainable means by which communities are kept in health, and longevity attained, rather than to afford minute specifications of the arts by which a luxurious and pampered individual may compromise between his appetites and his health, and procure enjoyment, if it were possible, without complying with the laws through which alone it is procurable.

Accordingly, a considerable portion of the book is devoted to the consideration of the dietetic usages of ancient and modern nations, and of the nature of the substance used for food in most parts of the inhabited globe. It is to this part of the subject, a very interesting one, that we shall principally confine the present notice.

With regard to the connection between health and longevity, and personal enjoyment and prolonged usefulness, the subjects of which the author first treats, we need say nothing. It requires no ghost to tell us, that without health there can be but little personal enjoyment, and without long life there can scarcely be *prolonged* usefulness.

Influence of Civilization on the Duration of Life.—In proportion as civilization advances it would appear that the mortality decreases. This would, at first sight perhaps, not seem so obvious to those who consider the deleterious effects upon the health produced by the constant strife for the means of existence rendered necessary by the increased density of the population. But, in proportion as civilization advances and the relations of men to each other become multiplied and complex, a more methodical and continued attention is paid to all suitable measures, calculated to prevent the injurious operation on the public health of personal or local impurity and taint. The rich inhabitants of spacious mansions are obliged, for their own sakes, to attend to the condition of the dwellings of their pauper neighbours. At any rate, whatever may be the reasoning, such, if we are to put any trust in statistical tables, is the fact.

In the city of Geneva, where an accurate account has been kept of the population, births, and deaths, for nearly the last three centuries, according to M. Mallett, the mean duration of the lives of the citizens of that republic, from 1560 to 1600, was twenty-one years and two months. In the seventeenth century, or from 1600 to 1700, the mean life was twenty-five years, nine months; and during the period from 1701 to 1760, it had increased to thirty-two years, nine months. This estimate of M. Mallett, strongly as it marks the difference in the duration of human life, in the above periods, is below that of some preceding writers, who did not make allowances for certain defects and omissions, which he points out, in the official tables. In 1833, the mean duration of life for the people of Geneva was forty years and five months; being nearly twice as long as it was rather more than two centuries before.

We have no means of comparing the mean duration of life in modern with that of ancient times, but according to Dr. Southwood Smith, whose opinion is founded on a document recorded by Domitius Ulpianus, Secre-

tary to the Emperor Alexander Severus, the probable duration of life in Rome among the better classes was thirty years. Now the mean duration of life for the whole of the people of Great Britain is about forty-five years, which would give them an advantage over the Roman citizens in the time of Ulpianus, or three hundred years after Christ, of fifteen years. In France, the mean duration of life in the classes more comfortably situated, is forty-two years, or twelve more than the people of Rome in corresponding circumstances.

According to M. Villermé, the mortality in Paris during the fourteenth century was one in sixteen; at present the mortality, even in the poorest districts, is stated to be one in twenty-four. In Russia, many parts of which remain in a state of semi-barbarism, the mortality is one in 27; whilst in Great Britain, where civilization has attained to a very great height, it is only about one in 44.

Dr. Bell carries the principle still further, and takes the effects produced by war:

"In war between nations, the people are thrown back towards barbarism, by the ascendancy of the impulses of destructive courage over the better sentiments; and if the intellect manifests activity, it is chiefly under these impulses. The entire state of things is antagonist to civilization and to religion: it is eminently so to health and life." Besides the loss of life in the field of battle, and that caused by fatigue, exposure and privations, the country is deprived of its labourers, the fields are uncultivated, the amount of the means of subsistence lessened. The effects of a long continued war are shown even in the next generation, as was the case with the French youth drafted for the army after the general peace. In 1826, out of 1,033,422 young men drafted to serve in the army, 380,213 were sent back, because they fell short of even the diminutive stature of four feet ten inches French.

National Dietetic Usages.—In opposition to the usual opinion, Dr. Bell maintains that those who eat much flesh meat and in greater proportion than vegetable food, are less civilized in every sense of the word, than those who derive the greater part or all of their aliment from the vegetable kingdom. "A broader contrast," he says, "can hardly be furnished, in this respect, than between the Esquimaux and the Laplander—the first, eaters of seal and walrus, and the second of reindeer—and the Hindoos and Chinese, so many millions of whom live exclusively on rice." But if we compare the rice-eating Hindoo with the Englishman who rejoices in the consumption of beef and mutton, we should hardly award to the former the superiority in civilization. The author, however, who evidently has no great relish for animal food, goes on to assert that the greater number of people in all ages have used, and continue to use, vegetable aliment alone; if any meat is taken it is not a daily allowance, and its proportion is small.

The ancient Greeks subsisted mainly on vegetable food, though animal food was undoubtedly used by them at least occasionally, as Homer so often specifies the kinds of meat served up at the repasts of his heroes, as when Agamemnon, at an entertainment which he gave to Ajax, presented this latter with the chine of an ox, as a reward for his valour: and Alcinous in a banquet fed his guest upon beef. But the very emphatic mention of these things is considered to mark their rarity, and to show that they were only served up to those in high rank and power. It has been ob-

served, as illustrative of the daily fare of those whom the heads of the house were not particularly desirous of pleasing,—that the suitors of Penelope, though given to all sorts of pleasure, are never entertained with either fish or fowl, or any delicacies.

The diet of the Romans in the early ages of the republic was extremely simple, consisting mainly of vegetable aliment of the commonest kind, such as pulse or barley. Afterwards, however, the latter was replaced by wheat, and barley was only used in cases of necessity, from the failure of the wheat crops, or as a punishment to the soldiers who had misbehaved. Thus, we learn, that in the second Punic war, the cohorts which lost their standards had an allowance of barley assigned to them by Marcellus. Augustus Cæsar commonly punished the cohorts which gave ground to the enemy, by a decimation, and allowing them no provision but barley.

As Rome increased in wealth and power, however, the diet of the citizens underwent a great change; not only was animal food freely taken, but the Romans indulged in a much greater variety than is acceptable to our modern notions. Fricasseed sucking puppies were in great request, and water-rats, snails, and maggots fattened on old timber, were among their greatest dainties. But most of our readers are without doubt too well acquainted with the description of the supper in the style of the ancients, in Peregrine Pickle, to render any further account necessary.

In the East, the food is generally vegetable: rice, perhaps, being the article in greatest use.

In Upper Egypt, where they cannot procure rice, they make a hasty meal on boiled horse-beans, or of lentils steeped in oil. Onions are used to an incredible extent. Dates supply them with sustenance part of the year; and in Summer, the vast quantities of gourds and melons which are then produced, place within their reach an agreeable variety. Their drink is the water of the Nile, more or less purified, with the occasional addition or alternation of buffalo milk.

In Abyssinia, however, the people evince a marked *penchant*, not only for flesh meat, but for raw flesh cut out of an animal alive, and while the fibres are yet quivering.

"The favourite portion is called the *shulada*, and is cut out, on each side, from the buttocks, near the tail. As soon as these are taken away, the wounds are sewed up by these surgical butchers, and plastered over with cow-dung. The animal, which had been thrown down before, and during the operation, is now allowed to rise, and is driven forward on its journey. The fashionable parties at Gondar, the capital of Abyssinia, are served with *brinde*, or raw meat, with the same hospitable feeling as, in our part of the world, they would be with venison chops, done just to the turn. The animal, a cow or a bullock, is brought to the door, and the dainty pieces cut off in the manner above described. But, on this occasion, the animal is killed, before doing which, all the flesh is cut off in solid square pieces, without bones or much effusion of blood. Two or three servants are then employed, who, as fast as they can procure the *brinde*, lay it upon cakes of teff placed like dishes down the table, without cloth or anything else beneath them" 60.

The Arabs chiefly subsist on the milk and butter obtained from their flocks and herds, together with a scanty supply of grain converted into flour. Camel's flesh is rarely eaten; a kid or lamb is often prepared out of compliment to a distinguished guest, but a person of less note is treated with coffee, or bread and melted butter.

In India and the greater part of China, rice is the staff of life; the Chinese, however, allow themselves a wide range in animal food, not so much perhaps on account of their natural propensities, as on account of the scanty supply of ordinary flesh meat and still more of food of any kind in so redundant a population as that of China. This will serve to explain their eating dogs, rats, and almost every kind of animal flesh. A favourite luxury with the rich consists of soups made with the gelatinous substances, sea-slug, birds' nests, &c. imported from the islands in the China and Java seas.

In strong contrast with the almost exclusively vegetable diet of the Southern Asiatics, of whom we have hitherto spoken, is the large, if not exclusive. use of animal food by the inhabitants of Northern Asia—Tartary and Siberia. The favourite food of the Tartars is horse-flesh; the horses being carefully fattened up for the tables of the rich. As, however, the number of horses is limited, and the flesh is consequently expensive, the poorer classes, and the wandering tribes in general, must put up with mutton in its stead.

In Siberia, especially the northern parts, the employment of the people is hunting and fishing, chiefly for the sake of food, partly to procure furs for the purposes of clothing and trade. They live chiefly on soured cow's milk, mare's milk, and horse flesh. Bread is unknown among them. Fat is the greatest delicacy; and they eat it in every possible shape, raw and melted, fresh and spoiled. The inner bark of the larch, and sometimes of the fir, is grated and mixed with fish, a little meat, and milk, or fat in preference, and made into soup. They are also excessively fond of tobacco, which is used both by men and women, who swallow the smoke and so bring on a species of stupefaction.

In northern and central continental Europe, the mass of the population, that is the poorer classes, subsist in great measure on vegetable food, and that of the second or inferior of the cereal grains, viz.—rye, seasoned with the products of the dairy, and a small portion of meat or fish. In southern Europe, maize, to a certain extent, takes the place of rye, and wheat is more freely used than it is in the North.

England boasts of the large proportion, comparatively to other countries, of animal food consumed by her inhabitants. It is estimated that wheat is supplied at the rate of a quarter, or eight bushels, for every individual in the kingdom. The proportionate quantity of flesh meat has not been ascertained; but, according to McCulloch, it is said to be for the people of London 107 pounds per individual throughout the year. This statement, however, we fear does not give a very correct view of the state of the operatives in large towns, or of the labourers in many agricultural districts, as in Essex or Sussex. In Ireland, it is well known that the potato forms the chief subsistence of the abounding population. It is the hard fate of the Irish people, or the great majority of them, to be tantalized with an abundance on their own fields, of live stock, which they cannot themselves convert into food, but must sell to meet other requirements. Even the fatted pig, so often the companion of the children in the poor man's cabin, is in due time taken to market and sold, to be killed and salted for exportation. "It has been estimated, that the entire amount of imports of alimentary substances, vegetable and animal, into Great Britain from Ireland, in one year has been as high as ten millions of pounds sterling."

In the United States of America, according to Dr. Bell, the alimentary products are most abundant, and their consumption placed within the means of nearly all classes. Even the slave population of the South is better fed than the peasantry of any part of continental Europe, and luxuriously compared with a large proportion of the operatives in Great Britain. A full supply of animal food, usually bacon or salt pork and salt fish, with corn bread, is allowed to the slave; to which is added, either the Irish, or still more commonly farther South, the sweet potato; and, instead of corn, rice in the lower districts of Carolina and Georgia. In Virginia and the West, fresh meat is given to them not unfrequently. To most of them is allotted a piece of ground (a patch) for a garden, in which they grow sundry vegetables and fruits for their own use, and not seldom for that of their masters, by whom they are paid at a fair price. Poultry and eggs, which they also have of their own, are more generally sold by them, either to their master's family or at the nearest village or court-house; and with the money they purchase groceries and other minor luxuries, or articles of personal adornment. The fruit, which they raise in the largest quantities for their own consumption and for sale, is the water-melon. The house slaves partake of the fare of their superiors, with the exception of a more restricted use of wheat bread; but this cannot be called a privation among a people with whom, as in the case of those of the South and West, maize is the bread corn, and the preferred one of the country.

If this be the diet of the slaves, that of the free white population ought to be most luxurious. In fact the author owns "that the people of the United States are in a large majority of them, over-fed." The artisan in the city, and even the hired labourer in the country, eats meat oftener in the day than many of the farmers, owners of the land, in France, and substantial renters on the shores in Italy, eat in the week. Dr. Bell estimates that for every pound of beef or veal consumed in Great Britain, there are nearly three pounds consumed in the United States.

Having so much to eat, of course such a "go-ahead" nation considers it necessary not to waste too much time in masticating it; the following description of a Yankee meal being by an American, cannot be considered as exaggerated or prejudiced.

"With such a superabundance, as I have already said, of aliment of all kinds procurable by all classes above destitution, it is natural that the Americans should be great eaters; one man consuming as much animal food in a day as would support three labouring men in Europe; and, together with vegetables and bread, taking also his glass of milk and no small quantity of pie or pudding, with often fruit afterwards. A man in harvest time, in almost any of the States, eats at his three meals, more, in nutritive amount, than would constitute luxurious living for eight East Indian or Chinese palanquin bearers for a week. In addition to the quantity, the time for consumption of food by our people is surprising, the latter being, however, in its brevity, in the inverse ratio of the former. Often, also, the rapidity with which a meal is dispatched seems but a signal for entire cessation from all labour, even that of thought, for some time afterwards. Thus, it is common enough for men of active business habits to make an onslaught on a well furnished table for about five to ten minutes, during which brief period they swallow, we will not say masticate, for they seem to consider their teeth as quite unnecessary instruments, with a fearful rapidity, parts of half a dozen of dishes. This feat accomplished, for really a simple Hindoo or Chinese would suppose it must be a piece of jugglery, these thankless consumers of the gifts of Providence, in place of rushing out from the table to their several marts of

trade, as their first inordinate haste would seem to indicate, will be seen to seat themselves very leisurely, and, with their feet up and head thrown back, to puff away at their segars, for the next hour, with a gravity and an appearance of want of all care, which would do credit to the most orthodox follower of Mohamed, when enjoying his modicum of opium, and perchance dreaming the while of his being suddenly made a pasha of three tails, and having the plunder of a province at his disposal. But not to smoking only or to the more noxious in itself, and more obnoxious to others, chewing of tobacco, do our people rely for helping digestion, as they call it, and for rousing their dormant sensibilities after their anaconda repast." 96.

The next portion of the work is devoted to the consideration of the various articles of vegetable and animal food: with these we have no occasion to meddle, as our readers will meet with fuller and more elaborate accounts of them in the works of Pereira and others; we may however, make a remark or two on the subject of the potato.

The Potato (Solanum Tuberosum) is indigenous to Chili and Peru, in which countries it grows wild; the flowers of the wild plant, however, are said to be always pure white, free from the purple tint so common in the cultivated varieties. For some time after their introduction into England, potatoes were looked upon as a great delicacy, and cultivated by a very few. The Royal Society, in 1663, encouraged a more extensive cultivation of them, as a means of preventing famine. Previously, however, to 1684, they were raised only in the gardens of the nobility and gentry; but in that year, they were planted, for the first time, in the open fields in Lancashire—a county in which they have ever since been very extensively cultivated. Their growth was more rapidly extended in Ireland than in England, and they have long furnished from two-thirds to four-fifths of the entire food of the people of Ireland. Potatoes were not raised in Scotland, except in gardens, till 1728.

Some of the good people of Scotland were at first opposed to the new vegetable on the ground that "potatoes are not mentioned in the Bible." In like manner, some of the priests in the Ionian Islands, at a later period, manifested their hostility, by alleging that the potato was the forbidden fruit, the cause of man's fall; and of course its use was both immoral and irreligious.

In France, much of the success of the potato was due to the exertions of Parmentier, who persevered amidst open opposition and ridicule of all kinds. For a while, the king, Louis XVI. and his court wore the flower of the potato in the button-holes of their coats, as a means of enlisting popular favour on its side.

In Switzerland, this vegetable is a leading article of food amongst the peasantry; in Poland, it is cultivated to an extraordinary extent; in Italy, within the present century, its growth has been greatly encouraged. In the Tropics it does not commonly thrive unless it be grown at an elevation of 3,000 or 4,000 feet above the level of the sea, so that it can never come into very general use in those regions. In the United States, potatoes form a regular part of the daily food of a vast majority of the inhabitants.

It has been well remarked by Mr. McCulloch: "So rapid an extension of the taste for, and the cultivation of an exotic, has no parallel in the history of industry; it has had, and will continue to have, the most powerful influence on the condition of mankind."

With regard to the proportionate nutritive properties of potatoes and wheat, and the amount per acre of each produced, deductions have been made as to the number of persons that could be supported on an acre of land planted with the former, compared with those that might be supported on an acre sown with wheat.—By some, the proportion is stated to be as high as six to one, and by others as only two to one. M'Culloch supposes four pounds of potatoes to be equal to one pound of wheat; now the average produce of potatoes in Ireland is stated to be 82 barrels, or 22,960 pounds the Irish acre, and if we divide this by four, we have the standard in nutritive power of wheat, as 5,740 pounds. The average produce of wheat by the Irish acre, is estimated by Mr. Young at 4 quarters, or about 1,920 pounds, or only about one-third part of the solid nutriment afforded by an acre of potatoes. Even in Great Britain, the soil of which is better adapted to the growth of wheat, and thought to be less suitable to that of the potato, it admits of demonstration that "an acre of potatoes will feed double the number of individuals that can be fed from an acre of wheat."

It is clear, therefore, says Mr. McCulloch, that the population of a potato-feeding country may become, *other things being about equal*, from two or three times as dense as it would have been had the inhabitants fed wholly on corn. But it is exceedingly doubtful whether an increase of population, brought about by a substitution of potato for wheat, is desirable. Its use as a subordinate or subsidiary species of food is attended, continues Mr. McCulloch, with the best effects—producing both an increase of comfort and security; but there are certain circumstances inseparable from it, which would seem to oppose the most formidable obstacles to its advantageous use as a prime article of subsistence. Potatoes are a crop that cannot be kept on hand; they are irregular in the amount of produce, more so than wheat; they are not capable, owing to their bulk and weight, and difficulty of preserving them on ship-board, of being imported in quantities when the home supply is deficient, or of exporting them when in excess.

Various estimates have been made of the entire value of potatoes annually consumed in Great Britain and Ireland. According to McCulloch, the yearly produce of potatoes may be taken at *twelve millions* sterling. In France, it has been estimated that the average annual product, in three years, of potatoes and chesnuts, was nearly one hundred and thirty millions of bushels.

The final Chapter of the work is devoted to the consideration of longevity; from this we can only extract a short passage respecting the relative mortality of different nations, merely remarking that the estimates are not to be taken as, strictly speaking, accurate.

"The absolute mortality of the Russians, was, within the last twenty years, 1 in 27; the Prussians 1 in 36.2; the French 1 in 39.7; the Dutch 1 in 38; the Belgians 1 in 43.1; the English 1 in 43.7; the Sicilians 1 in 32; the Greeks 1 in 30. We have no estimate of the mortality of the people of the United States. In Philadelphia, the annual mortality is 1 in 42.3; in Boston, 1 in 45; in New-York, 1 in 37.83." 419.

The work, without much pretension to originality, is interesting and amusing.

TRANSACTIONS OF THE MEDICAL AND PHYSICAL SOCIETY OF BOMBAY. No. V.

THERE is a self-asserting power in scientific investigation, which, however long kept in abeyance, is sure, at length, to develop itself, some time or other. It may be kept depressed for many years by a variety of counteracting circumstances that would almost seem to indicate its non-existence, until, rising superior to conventional neglect, or official contempt, it forces itself upon the notice of the public. In no country has this been more remarkably the case than in India, where the spirit of research and improvement, unless it could be shown at once to have a cogent reference to revenue, has received but a very negative kind of encouragement from the State. That a field so extensive, so varied in character, and so fruitful withal, should have remained so long uncultivated, and have contributed, comparatively with its resources, so little until a very recent date, to the granaries of professional knowledge, may be a matter of regret, but ought not to be one of surprise. A tenure founded on trading monopoly, in no case can be considered as friendly to literature and science for their own sake. The spirit of its sway is not a liberal one, but, on the contrary, one opposed to such speculations on the score of expense. Nothing is admitted as laudable that does not furnish a conclusive array of figures on the profit side of the balance-sheet. "I hate Boetry and Bainting,"—said the first "wie German Lairdie" who succeeded the Stuart Line on the English throne. His Majesty, the Georgius primus of that ilk, disliked what ran counter to his usual wie German lairdyism of ideas, and this is precisely the case with the counting-house genius, when it is invested with the truncheon of dominion.

Our Rulers in the East, for a long time, tried to manage an empire as if it were a shop in which some secret process of manufacture was going on, which the patentee dreaded an invasion of. A restless jealousy was continually in operation, lest "outside barbarians" should pry too narrowly into what was going on "over the way." A morbid anxiety was ever betraying itself, lest undue attention should be attracted even to the locality of the shop, (which distributed its wares to distant customers by agents of its own,) for fear some rival interest should set up another. Nay, there was even an unwillingness to let those who once entered the shop as operatives, out again in a hurry, lest they might, by their gossip, or influence, be the means of directing too much of the public attention to the said emporium. To turn the present to the best possible account and to let the future shift for itself, was the general rule. The dominant class had too much to do, to provide good investments for their masters, (not forgetting themselves,) to think of posterity, or to dream of fostering science and letters. At length, however, (for such things will happen,) a taste for these, in the abstract, sprung up from the midst of bales and *purwannahs*, and the ASIATIC SOCIETY of Bengal became a centre of archeological, mystic, and statistical information. Here judges, and philological civilians, and field officers of observant or scribbling habits, delighted to exhibit their callow plumage, in days when, to appear in print was not the vulgar thing of course it is now, perhaps, considered. The thing had a smack

of aristocraticism, and there was a certain savour of dignity about it, while all kept up the ball with a grave sedateness that made it the more delicious *desipere in loco*. A stray Doctor Sahib, was occasionally caught, who by his learned lore, gave great zest to the whole affair, and was frequently the social steel whose collision struck sparks of lore from the silicious, measured and dried-up philosophers around him. Members of the medical profession, as a class, have nevertheless never been a popular or favoured one in India, nor are they, most probably, so anywhere. In general they were, and are considered a necessary evil, an indispensable annoyance, to whom, or which, the rationale of reward was to be doled out with rather a niggardly hand; and who, as respected either the Civil or Military classes, were deemed with but not of them. The government never dreamed of consulting them, individually or collectively, no more than it would of taking the advice of the Lascars. They were not supposed to know anything beyond a pill-box range of intellectual acquisition. It was considered proper and decent to maintain them as a compulsory sort of establishment for fear of conventional and legal reproach. They were looked upon as a kind of mechanical or gastric necessity, and, to this very day, the type of the Company's policy towards their medical officers may be pithily recognised in some Skipper's advertisement, who informs the world, that the admirable craft he commands, will leave Blackwall, or the Downs, by a specified day, and clinches the attractiveness of her merits, by adding that—"she carries a Cow and an experienced Surgeon."

To Apollo alone must be left the boast—

Opifer per Orbem dicor.

To be hailed as *Opifer* anywhere, one must have something of a genial sphere of action. There must be an audience, before there can be the award of applause for "the poor actor who struts and frets his hour upon the stage."

While we acknowledge how little, for a long time, was done for medicine by medical men in the East, we keep in mind, and beg of others not to forget, the difficulties they had to bear up against. There was no stimulus whatever in the Department itself, and, consequently, all who could do so, made it a point to cut it as soon as possible and get under the sunny side of something better, and almost anything else was better than the medical service. Occasionally when the State, in the Commissariat or lower grades of the political department, might require the services of a tolerably clever fellow, he was borrowed (when no better could be found elsewhere) from the medical corps; and his energies became from that hour lost in the walk of his profession for ever. He thenceforward turned his back upon it with disgust, glad to be well rid of a calling in which honour and profit were upon a parity of foundation, and both so low as to be out of sight of common spectators. Others, seeing that the possession of rupees was the veritable Aladdin's lamp, and that, in the capacity of medical drudges to military establishments, the attainment of wealth could only be looked for ad Græcas Kalendas, became a sort of bastard merchants, or underwent some other novel metempsychosis, changing into Indigo Planter, or any other form of being that gave a riddance from that

long alley without turning, from which not a single solitary vista opened to ambition.

In spite, however, of all discouragements, the scornful neglect of superiors, and the leaden apathy of equals; now and then, and far between, a few might venture to show the genuine Esculapian inspiration, and that their talk was not wholly of bullocks, (Commissariat, perhaps?) by directing themselves to the languishing interests of their profession. Some even ventured to publish the results of their experience. Such, however, were caviare to the multitude, and perhaps in the end would be out of pocket by the venture, at which the drones of the hive rejoiced, deeming that it served them right. The very circumstance of possessing a superior understanding might, at times, owing to the unfortunate concatenation of circumstances, be rather prejudicial than otherwise to medical officers, unless they were perfectly cognizant of the arcana of "*boo'ng*," as laid down, in a very edifying manner, in a certain ethical treatise of a dramatic form, called "The Man of the World." But, then, was there not the Medical Board, the natural head of the Medical Staff? Yes, a head much like that of the snake which we occasionally see as an emblem of time devouring its own tail. The Presidencies of Bengal, Madras, and Bombay, each had its snake devouring its own tail! These Boards in their own estimation did much. They did not exactly extract sunbeams from cucumbers, or convert cobwebs into silk; but, then, in order to demonstrate to the Government that they were good for something, they laboriously bebustled themselves in a much ado about nothing circle of gallipot surveillance, and vexatious interference with their juniors, who not unfrequently were their superiors in all that constitutes a good medical officer, save and except the invaluable quality of seniority in the list! On the other hand, for the encouragement of true science, for fostering zeal, and exciting emulation, and the spirit of philosophical observation, and drawing radii of results to themselves as the grand professional centre of the Service—they had no more vocation than the sounding-board has to tune the keys of a musical instrument. You might hear of them in any annals, but those of the healing art, and its collateral branches. Excellent tiger hunters, cotton merchants, pig-stickers, horse-jockeys, or hoarders of gold mohurs they might be, but in the vestibule of "Augur Apollo"—you never heard of them. To them, indeed, the god always appeared—

Nube, candentes humeros *amictus*,

or, in other words, wrapped up in his cloak, so as not to be known to them.

It is a curious fact, but it is believed to be a fact notwithstanding, that with few exceptions, Medical Boards have always been found in hostile apposition to those most distinguished on the Medical Staff for talent, information, and independence of character. Possessing, fortunately for the Service at large, but little power, yet, of the little they did possess, they too often made a mean, invidious or contemptible use; merging their energies in petty objects, or paltry savings, which they mistook for economy. They took in its narrowest and most literal sense, what otherwise might be a lesson of true wisdom—

"Magnum Vectigal parsimonia,"

and thus compromised real efficiency, or worse still, the well-being of the sick and the weak. Thus it was that in Calcutta, during Lord William Bentinck's time, they being anxious to add a hue to the rose of his economy, at the expense only of their juniors, suggested to his Lordship, quietly from themselves, and a-propos to nothing, that the situation of Surgeon to the General Hospital might be abolished, even though it was held by one of his own personal staff, who was acknowledged to be an honour to the service. The Board further modestly suggested that an Assistant-Surgeon might do the duty performed by the Surgeon, while the pay of the latter might thus be saved to the Government. His Lordship, who clearly saw through this liberal proposal, and thoroughly appreciated the purity of generous public spirit, no less than the taste and delicacy in which it was offered, is understood to have replied, that he did not deem it expedient, and that, with reference to an Assistant-Surgeon doing the duty, he might by parity of qualification perform the duties of a member of the Medical Board also.

To the paralyzing influence of the Medical Boards is partly, or in a great measure owing, the slow rate, for so many years, of medical progress in India. Occasionally, a man much above the average, a Gibb, an Annesley, or a Playfair, might get into the Board, but what could he do as a minority, or at any rate as a counterpoise against a radically bad system? The best men must have pined in such a position. To generous talent, and aspiring nobility of soul, it must have been crushing. Sickened by the withering sense of their own insignificance for purposes of melioration, and real ineffectiveness with the Government for large and systematic good, (whatever might be professed by secretaries and officials in high places,) such men must have felt that it was useless to struggle against the stream. As a deliberative body, the Government has generally evinced total indifference to its suggestions, or its measures. Boards, indeed, have usually been considered a kind of paddock, where the worn-out hacks of the profession might graze out the remainder of an inglorious official existence in peace.

A dawn of better times broke upon the profession in the formation, some seventeen years ago, of the Medical and Physical Society of Calcutta, which has ever since continued a moving spring for eliciting information on a variety of topics of the greatest scientific interest; although at one time it was reduced, we hear, nearly to the verge of bankruptcy by injudicious management, and a party-spirit that, it is to be hoped, has been laid in the Red Sea for ever! That it is now flourishing again in a state of vigour, is in a great measure due to the tact, talents, and conciliatory spirit of its present accomplished and worthy Secretary, J. J. Jackson, Esq. In regard to the Medical Society of Calcutta, justice demands it to be acknowledged, that the members of the Medical Board have always, so far as our information goes, shown themselves its friends, and, as far as their power might go, its patrons. It is indeed pleasing to have any thing to read that redounds to their credit. O si sic omnia! For many years the Medical Officers of Madras and Bombay (including those of the Royal service) generously supported the Calcutta Association, enriching its annals with valuable contributions. But in process of time the other Presidencies instituted societies of their own upon similar principles, and

all three are now in active operation. A great re-action had thus unquestionably taken place, which ever since has been deepening and widening its current, and may be expected to be further instrumental as a reviving power of improvement, provided the State also look to it, and facilitate by means of its own, at little real cost, the flow of its channels and feeding streams. Although in a region where previously a, comparatively speaking, Cimmerian darkness had prevailed, this enlightenment was auspiciously felt throughout the whole body of the profession in the East, still there was a void, which the appearance at long intervals, of an occasional volume of Transactions could not fill up. The want of a monthly medical periodical became palpable. In India, serious difficulties beset the first establishment of a literary project of any kind. The merit of establishing the first medical periodical in India is due to Messrs. Grant and Pearson, of the Bengal Presidency, who, on the 1st January, 1834, at their own sole responsibility and cost, it appears, issued the first Number of "The India Journal of Medical Science," which was, a year or two afterwards, transferred to Mr. Corbyn, who has continued to conduct it with great zeal and success. Some years afterwards, under the able management of Mr. Rogers, a similar medical periodical was established at Madras; nor has Bombay been wanting in the good cause.

So far, then, the members of the profession in India have done their part, and done it well, all things considered. They have in some measure roused themselves out of the lethargic state in which they lay so long, through the soporific influences of causes that we have endeavoured to lay impartially before our readers. It remains now for the authorities to do their part, ay, and to do it in a statesmanlike manner too. Of late they made a good beginning in meliorating the scale of retiring pensions, so as to bring medical officers nearer to a par in that respect with their military brethren. Much, however, yet remains to be done before an approach even to moral equality of privileges and immunities can be made out on the part of the medical officer. The Medical Service, as a body, stands urgently in need of being raised in public estimation. Mere self-respect will not always support a corps unless it unmistakably feels and sees that others acknowledge it to be held in honour by the State. No such conviction can possibly support the Indian medical service, since we have it upon evidence which we deem conclusive that it does not exist. That Service feels itself, from the treatment it has received and continues to receive, to be *a low corps*. Nothing has yet been done by the State emphatically to evince the contrary. Mere emoluments and pensions will not do this, even were they still greater than they are. Something more than the easy means of animal and social sustentation is required here. The mind of man has its lacteals, as well as his physical frame. The spirit has its chyle, without which it pines and dies. If the Medical Staff of India be not considered a low corps at head quarters, unquestionably their systematic exclusion from all honours and distinctions whatsoever, on the part of the State, effectually brands them as such in the face of their military brethren. What mark of consideration has the Government ever conferred on distinguished officers of this class? In all other departments of the service, when the head of a department retires, or dies, some graceful mark is enunciated in the Gazette, of the sense

entertained of his merits and services. Nothing of the sort is done as regards the heads of the medical department of the army. They may come or go, live or die, it is all the same, there is an exalted unconsciousness exhibited in the organs of public expression of their having ever existed. No notice, no compliment, no order, no honour of any kind ever awaits them, living or dead. For this studied superciliousness and neglect there must surely be some cause. What is it? Or is it causeless and wholly unmerited? Either they do not deserve it, or they do—it is intentional or it is fortuitous. If the latter, it ought forthwith to be remedied, and large amends made for past exclusion; if the former, then are they thus confessedly stamped as forming a class to whom it would be derogatory on the part of the State to pay any public compliment whatsoever—for pay and allowances and pension are no compliment at all, but the quid pro quo of hard service and exile. On either horn of the dilemma the cause of this scandalous neglect rests, and it may be added as a corollary on this "eternal fitness of things"—that in a country where the heads of the clergy are received with salvos of cannon, the heads of the Army Medical Department have no salute whatever accorded to them. We have stated that all the reward they have, then, or ever can expect, is pecuniary. In all campaigns there is a lively excitement produced in every grade by the prospect of advancement and distinction. Medical officers unhappily are the exception. To them it is a very up-hill prospect indeed, all responsibility, painful anxiety, and toil, but no chance whatever of advancement or distinction. They behold those who entered the army many years after them pass them in the race, honoured and bedecorated, while they may go on from Burmah to Burtpoor, from Ghuznee to Meeanee, unnoticed and undistinguished. But they are in excellent company—look at the Royal Medical Service. Did any honour devolve on the surgeons who shared in the perils and toils of our great naval engagements? Where are those that should have rendered effulgent the heads of the medical staff in the Peninsular campaigns? But has not the head of the Army Medical Department been made a Baronet? Indeed! and have not Brewers and Stationers been created Baronets? Why should not the head of a great department receive a Peerage as well as others who have not deserved a jot better? "Podalirius et Machaon secuti ducem Agamemnon a Trojano bello, attulerunt non mediocrem opem suis commilitionibus." Alas! the great Duke deems that he has done enough for the Army Medical Staff. They have no medals, no escutcheons, no ribbons. Unlike Menelaus, His Grace never came under any Machaon's hands in the day of battle, nor did an army look, as in the case of the great Grecian leader, to one divine man as holding in his hands, while the life-blood welled over his harness—the fate, as it were, of Greece. God forbid that the great Duke should ever need such aid. If he had needed it in time past, perhaps it were better for the Medical Staff. Be that, however, as it may, it will hereafter reflect no credit on his memory, let his flatterers say what they please, that when he might have honoured science, and noble zeal, in the line of the most arduous of professions, he neglected it with the cold impassiveness of aristocratic scorn.

We have thus endeavoured fairly to show cause why the field of Indian

research has not been more productive. Nevertheless, however great the negligence of their superiors may have been to their just claims, we must remind the Indian Medical Service, that the genius of their noble profession will not hold them excusable, if they halt in any respect behind the spirit of the age. Considering how recent the re-action has been, and how little has been done for it by the State, the candid inquirer will allow that it is very honourable to that service. One of their own number has forcibly pointed out to them a walk in which much remains to be done, and in which he has himself been a distinguished labourer—we mean the field of Medical Statistics, in which Mr. J. R. Martin has so successfully led the way. "We may not," (says Hobbes,*) "as in a circle, begin the handling of a science from what point we please. There is a certain clue of reason, whose beginning is in the dark, but by the benefit of whose conduct we are led, as it were, by the hand into the clearest light, so that the principle of dictation is to be taken from that darkness, and then the light to be carried thither for the irradiating its doubts. As often therefore as any writer doth weakly forsake that clue, or wilfully cut it asunder, he describes the first steps, not of his progress in science, but of his wanderings from it." Is not this observation in relation to ethics eminently applicable to the subject of medical statistics as a clue to generalization in tracing the history of disease and climate? We would strongly impress upon our brethren in India the excellence of the advice given to them by Mr. Martin—"let them seriously examine the influences of general tropical climate, of locality, and of season on European health; such objects are in reality of more value than volumes of cases, or details of routine practice; their careful investigation will confer permanent benefit on the public service, and sooner or later derive honour to themselves, difficult, if not impossible, to be obtained in any other way."† Let them turn up the same work in regard to the climate of Bengal, and from the motto of Cabanis (p. 15) to the running commentary upon his and Malte Brun's text, they will find an abstract of what is meant by climate felicitously illustrated throughout the whole work, the constant recollection of which will be edifying and profitable. The subject is by no means new. The following observations are two hundred years old.

"Lemnius reckons up two main things most profitable and most pernicious to our bodies: air and diet. Such as is the air, such be our spirits, and as our spirits, such are our humours. It offends commonly if it be too hot and dry, thick, fuliginous, cloudy, blustering, or a tempestuous air. Bodine, in his fifth book, proves that hot countries are most troubled with melancholy. * * * * Cold air, in the other extrême, is almost as bad as hot. * * * The worst of the three is a thick, cloudy, misty, foggy air, or such as comes from fens, moorish grounds, lakes, muckhills, draughts, sinks, where any carcasses or carrion lie, or from whence any stinking, fulsome smell comes. * * * Alexandria, a haven town in the Mediterranean Sea, St. John de Ulloa, a haven in Nova-hispania, are much condemned for a bad air; so is Durazzo in Albania, Lituania, Ditmarsh, Pomptinæ Paludes, in Italy, the territories about Pisa, Ferrara, &c. Romney

* "Philosophical Rudiments."
† "Influence of Tropical Climates, &c." 6th Edition.

Marsh with us: the Hundreds in Essex, the Fens in Lincolnshire. * * * The best soil commonly yields the worst air: a dry sandy plat is fittest to build upon, and such as is rather hilly than plain. * * * Constantine (*de Agricult.*) praiseth mountains, hilly steep places, above the rest by the sea side, and such as look towards the North. * * * *Serenat Boreas*, the North wind clarifies; but near lakes or marshes, in holes, obscure places, or to the South and West, he utterly disapproves. Those winds are unwholesome, putrefying, and make men subject to diseases. * * Varro de re rusticâ forbids lakes and rivers, marsh and manured grounds; they cause a bad air, and gross diseases hard to be cured."*

Not only are diseases frequently changing their character, but modifications of condition produce new crimes, as well as new diseases. The last fact was well known to the ancients—"vero etiam nova genera morborum sæpe incidere in quibus usus ostenderit adhuc nihil."† The immense importance indeed of the neglect of Medical Statistics in all its extensive bearings, is so obvious, that we do not deem it necessary to dilate upon it further here, more especially as the attention of Indian medical officers would seem to have been aroused to it by the General Order of Nov. 1835, which originated with Mr. Martin. The work, the title of which heads these remarks, sufficiently indicates this gratifying fact, for almost all the items of the Number in question point to the right direction—as may be seen by a glance at the table of CONTENTS:

1. Report of the Diseases which have occurred in the Honourable Company's Steam Flotilla on the river Euphrates, from the 1st January to the 31st December, 1841, together with an account of the Climate and Medical Topography of the Upper Euphrates. By John C. Floyd, Esq.—2. Annual Report of the Native General Hospital at Bombay, for the year 1841. By A. Graham, Esq.—3. Annual Medical Report of H. M. 2d or Queen's Royal Regiment, from the 1st of April, 1841, to the 31st of March, 1842. By R. H. A. Hunter, Esq.—4. Portion of the Annual Report of the 1st Troop Bombay Horse Artillery, embracing the first eleven months of the year 1841. By A. H. Leith, A. M.—5. Reports of the Medical Statistics of Upper Scinde, drawn up by the Medical Officers serving with the Force under the command of Brigadier England.—6. History of the Epidemic Fever which prevailed among the men of Her Majesty's 17th Regiment during the Monsoon of 1841, when quartered in the Colaba barracks, Bombay. By Arthur S. Thomson, M. D. Assistant Surgeon, 14th Dragoons, lately 17th foot.—7. Annual Report of the 2d Battalion, Bombay Artillery, stationed at Fort George, for the year 1841. By T. Robson, Esq.—8. A Letter addressed to the Superintending Surgeon of the Deccan Division, on the use of the Iodide of iron. By D. Grierson, Esq.—9. A Letter on the Fever which prevailed at Bankote in the S. Concan in 1841, addressed to the Superintending Surgeon of the Presidency Division. By T. Waller, Esq.—10. Remarks on the practice of Transfusion and its application in the treatment of Hæmorrhage, &c. deduced chiefly from Recorded cases. By John Peet, Esq.—11. Medico-

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* Burton's Anatomy of Melancholy.
† Celsus, Lib. 1.

Historical abstract of the 1st year's service in the East Indies, of H. M.'s 14th Regiment of Light Dragoons, at Kirkee, under the Bombay Presidency. By J. W. Moffat, Esq. Surgeon H. M.'s 14th Light Dragoons.—12. Observations on the good and bad effects of Calomel in some of the Diseases of India. By J. Murray, Esq.—13. Annual Report of the 25th Regiment, N. I. for the year 1841. By A. Wright, Esq.—14. Annual Report of the Civil Surgeon of Ahmedabad for the year 1841. By S. Sproule, Esq.—15. Contributions to Vegetable Embryology, from observations on the origin and development of the Embryo in Tropœolum Majus. By Herbert Giraud, M.D. Edin. F.B.S.E. Ext. Mem. Med. Soc. Edin. &c. &c.

APPENDIX.—1. Extract from a Letter on the Sickness at Kotra in Upper Scinde, addressed to the Surgeon, from W. T. Babington, Esq —2. Table, showing the comparative Means and Extremes of Rain-fall and Temperature, at Malcolm Peth, Paunchgunnee, Bombay, and Poona, during the Rainy Season of 1842. By J. Murray, Esq.—3. Annual return of Patients in the Lunatic Asylum, Bombay, from the 1st January to the 31st December, 1841. By W. B. Barrington, Esq.—4. The late Assistant Surgeon, John Fraser Heddle.

Though the details generally do not admit of being very conveniently quoted, they have the merit of being clearly and plainly drawn up, and to be free from that leaven of ambitious writing, which is never so much out of place as in medical records. They afford also a refreshing contrast to the old routine in giving, faithfully, features of physical appearance and peculiarity different from the fashion which is too prevalent when a man travels from Dan even to Beersheba, and his journal affords no testimony to the fact, save in symptoms of ailments.

Mr. Floyd's report refers to a line of country that the medical man's attention is seldom called to, in the way of his profession, though it is stereotyped as it were on the memory, in regard to the ancient history of many nations. The Valley of the Euphrates, from the 33d to the 37th degree of N. lat. is for the most part hilly, and, except in the vicinity of Hilla and Bagdad, devoid of canals. It varies in breadth from two to five miles, except between Hilla and Anna, where it closes in, and becomes in many places less than half a mile in breadth. Second in importance to Hilla is the next station of Musseib, a place of considerable traffic, containing about 5000 inhabitants. From this to Felugia, the banks are liable to be inundated during the rainy season. Felugia is in the same latitude as Bagdad, being 34 miles West of it. Here they proposed to establish a Hospital, in the event of the Euphrates being permanently available to us. From this to Hitt, the country begins to rise, a distance of 80 miles. Hitt is situated on an isolated bank of lime-stone rock, and has a population of 3000 souls, for the most part of a sickly aspect, which Mr. Floyd attributes to the impregnation of their atmosphere with sulphuretted hydrogen from the bituminous springs. Bitumen is the staple of the place, being used for a great variety of purposes. From this place to Deir is 252 miles as the river winds. The valley becomes broader, varying from 3 to 10 miles, with thick and extensive tamarisk jungles. All through this tract is desolate, which perhaps of itself may be conclusive as to its

unhealthiness. From Deir to Jiaber Castle is 180 miles. The country becomes more elevated and interesting, "the banks of the river being lined in many places with mulberry and poplar in addition to the everlasting tamarisk: cultivation is also more extensive as we proceed northward." This place, which has been used as a station for the steamers, is situated on an isolated hill of sandstone and gypsum, nearly 30 feet above the level of the stream, which flows in a rich and beautiful plain, beneath its time-worn Saracenic ramparts. The valley here is about two miles broad. As the part of the river between Jiaber and Belis is on the direct road to Aleppo about 76 miles off, it has been proposed as the most northerly station. From Jiaber to Belis is 50 miles, the banks being well cultivated. From Belis to Birjeek, lat. 27° N. is 105 miles through a mountainous and desolate country. It contains 6000 inhabitants, and was the place selected for the erection of the steamers of the first Euphrates expedition. The climate, as is the case with all the northern parts of the Euphrates, comprises the extremes of heat and cold. It is distant from the Persian Gulf by river navigation 1,100 miles, 90 from Aleppo, by an excellent road, and 187 from Iskanderoon, the nearest port of the Mediterranean, and the place he thinks is admirably adapted for a depôt and for purposes of mercantile intercourse. Vegetation on the upper Euphrates is exceedingly scanty, the result no less of climate than of neglected irrigation. Immense jungles of tamarisk, willow, and liquorice, line the banks. The vegetable productions cultivated by the Arabs are wheat, barley, sesamum, &c. Melons, cucumbers, &c. grow to the greatest perfection. The seasons on the Upper Euphrates may be considered in every respect as much later than to the South. The Spring is cooler and more prolonged, and the great heat of Summer diminishes 20 per cent. compared with Bagdad. During the prevalence of the S. E. wind, headaches, diarrhœas and catarrhs are apt to supervene. Mr. Floyd, like all who have had personal experience of such oppressive winds, is convinced that their effect on the human system is owing to electric rather than atmospheric changes. Owing to the dryness of the soil and atmosphere miasmatic fevers do not prevail on the Upper Euphrates. Inflammatory fevers formed the largest and most serious class of disease, and occurred chiefly in June and September, when the diurnal range of temperature was the greatest, with cold raw mornings occasioned by the N.W. and Easterly winds. It comes on suddenly, and is characterized by great languor and soreness all over the back and extremities. This is succeeded by severe headaches, flushed face, hot skin and restlessness—pulse 98 to 115, full and bounding. This state of excitement may be arrested in 24 hours by active antiphlogistic treatment. Though the climate of Mesopotamia is rather hot in Summer, it is free from endemic disease, and for the next nine months, Mr. Floyd states (which is no limited praise) that "there is not a finer climate in the *Universe*." Why has the Editor deprived us of Mr. Floyd's cases? At any rate, why not give us his sick return? Was he ashamed of it as a specimen of Medical Board Statistics?

Mr. Graham's annual report of the Native Hospital at Bombay shows an amount of mortality that tells as a sign of civilization. This sign, however, may be of double import, since the population of a country old

in civilization, may, in the lower grades of society, evince a deteriorating or retrogressive condition. Natives of India (and it is pretty much the case elsewhere) do not enter the wards of a hospital until compelled by extreme suffering, when they are admitted in the last state of disease and destitution. Many in fact literally come to die. It is gratifying to learn, notwithstanding, that the deaths were rather more than two per cent. less than during the preceding year, which is attributed to the almost total absence of epidemic disease which had prevailed to a considerable extent the year before that, when cholera first, and small-pox afterwards, proved very destructive, as they had periodically done in preceding seasons. As respects the second of these scourges, how stands vaccination throughout India? Is it stationary, or progressing, or what? We ask these questions not without cogent reason. We hope that no false reasoning on the part of Government, or no suggested favour-currying stinginess on the part of the Medical Boards, has affected in any way the extensive efficiency of this invaluable prophylactic? From what reached us not long ago, regarding certain nibblings of the Bengal Board with the subject, we are not without apprehensions regarding it. One thing, from all we have heard, is clear—which is, that the scale of remuneration allowed on account of the duties is not sufficient. It has been calculated on a very niggardly basis. There has been too great a tendency of late years to reduce vaccine establishments in India, and to abstract from their popularity by rendering the duties almost compulsory on the lowest amount of pay—just as with medical attendants on poor-law establishments in this country. It seems, then, as if any where, any thing, were deemed good enough for medical men. Somehow they are more compressible by the State than the members of the other learned professions. How is this? Simply, we believe, because, as great corporations, the others have stood by each other as one man, and made themselves to be felt as "great facts," in the institutions of the country, and have had accordingly representatives in the councils of the nation out of their own bodies, who, aided in legislating for them, and preserving their interests from encroachments of any kind; whereas, our wretched ill-assisted, ill-protected medical corporations, have never been so represented; but have had the beggarly shreds of legislation that scarcely cover their moral nakedness, provided by the haughty hands of the proud aristocracy, that regards them as the Gideonites of the learned professions. Until medical corporations have some degree of influence in the Senate through more direct representation, they will always be kicked about as the football of the minister of the day, and amenable to all sorts of back-stair trickery in regard to their rights and privileges, if it can be truly said that they have such! But to return to our mutton—small-pox is so terrific and loathsome a scourge, that all governments ought to consider its eradication or neutralization, a point of vital importance, and should be quick rather to listen to proposals for more extensively checking it than to specious suggestions for reducing establishments—because, perhaps, they may have been so effective in abating the ravages of the scourge, as to produce a lull that induces an idea that such may be dispensed with altogether. When Mr. Graham states that the year 1840 was remarkably free from any epidemic, we wish he had endeavoured to show how this happened. It is all very well

to give us returns of the numbers of sick relieved, and so forth, in diseases, but we desire something more in the way of inductive reasoning on the causes of such results. "The prevailing diseases," we are told, "were Cachexia, Diarrhœa, Dysentery, Fevers, *Fractures*, and Hepatic Affections."

Whatever the Medical Board may order in the way of returns, surely it is neither accurate nor scientific to return fractures and wounds under the head of diseases, and *prevailing* diseases too, just as if an easterly wind broke a man's bones or gashed him on the face! We cannot compliment our Reporter upon his account of post-mortem examinations in a case of Apoplexy; it is about as succinct and indefinite as the *no* history of his other apoplectic cases. Of Spasmodic Asthma, we are told in rather an off-hand way, that they were all successfully treated "on the usual plan, namely, by emetics, anti-spasmodics of ether, hyosciamus, *colchicum*, opium and conium, together with expectorants of ammoniacum, squills, tartarised antimony, and *digitalis*," &c. Here, to say nothing of colchicum figuring as an antispasmodic and digitalis as an expectorant, we have not the slightest guide to any particular mode of administration, nor is this looseness of record confined to this place. Under the head of cutaneous affections, we have had cases of Elephantiasis or Lepra Arabum, of which no hope of cure could be entertained. "All that could be effected towards their relief, consisted in the application of astringent lotions to the ulcerated parts." We should like to know the component parts of the said lotions. But, after all, so long as treatment of a constitutional disease, originating in probable pravity of the source of all secretion,* is confined to the local application of a lotion, it signifies litule what it may have been composed of. Would it not have been worth while, in such cases, to have given a steady trial to the *Mudar?* Cachexia is an excellent witch's cauldron sort of class wherein to throw all diseases "that puzzle the will" to name them. Under this head as here alluded to, not a single ray of light breaks upon us as to the precise nature of the ailments; which is the more perplexing, as Scurvy and Syphilitic Affections have a place of their own; and this admirable specimen of Medical Board Statistics winds up with another witch's cauldron under the designation of "*other diseases*." Anomalous, is also a heading in such returns, so that the medical staff have a liberal choice of witch's cauldrons, as "anomalous," "cachexies," and "other diseases." This reminds one of the old chapter de omnibus rebus et *quibusdam aliis*. How is it possible to deduce correct statistical conclusions from returns thus bungling in their data?

Of five cases of Delirium Tremens that came under Mr. Graham's care, one proved fatal. One of the successful cases, (an East Indian,) who was greatly addicted to drinking, is instructive, as showing not only the necessity for a heroic remedy, viz. opium, but the extent to which it must

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* A-propos, at p. 31 we have the remark, which we do not exactly profess to comprehend:—"owing to the prejudices of the natives, they seldom consent to undergo an operation, until the powers of the constitution are almost exhausted, and the blood has become quite *corrupted*."

sometimes be administered. In this case, 78 grains of opium and 27 of morphia in tincture, were given in nine days, before the symptoms yielded. In two of these days about eight grains of morphia were given daily before sleep was induced; and of the opium, 18 grains were exhibited in one day, and 39 grains in another. About half the number of dysenteric cases admitted died, chiefly in patients admitted in the advanced stage of the acute or the chronic form of the disease. The case of fatal meningitis supervening in Quotidian, is precisely such a one as we should like to have had a detailed report of—as well as of the quantity of blood abstracted in the first instance, &c. Twenty cases of pneumonia were admitted, of which 13 died 24 hours after admission. The season at which this occurred ought to have been mentioned. Lower down in the page (28) we are told that two of the cases included under the head of Pneumonia died of diseased heart. Let us split the difference, and to make assurance doubly sure, grant that they died of both! We give a short but interesting extract concerning—

"*Spleen Diseases.*—Eight admissions all successfully treated. In one case the spleen was enormously enlarged. This viscus is connected, in a remarkable manner, with the stomach by the vasa brevia; adhesions and ulcerations may have gradually taken place between the two organs, as the patient was suddenly seized with severe vomiting of dark grumous, clotted blood, mixed with shreds of coagulated lymph. This pulpy substance seemed to be the dissolved spleen, and was brought up to the extent of several pounds, after which the viscus was suddenly reduced to its natural size, and the patient left the hospital convalescent. This is supposed to be the only instance known in this part of India, of diseased spleen bursting into the stomach." 29.

From the few cases of ophthalmic affections reported, we infer that the majority went to the Eye Hospital, there being, we believe, such an Institution at Bombay. The notification respecting ulcers is interesting.

Ulcers	Admitted	Died
Scorbutic	16	
Simple	79	2
Sloughing	11	7
Irritable	3	

"One hundred and nine admitted, nine deaths, all occurring in subjects where the disease had become incurable from the state of the general habit, or from the parts becoming so much involved as to prevent amputation. At an earlier stage of the disease, when operations might have been performed with success, the patients could not be persuaded to submit. In some of the cases diarrhœa supervened and carried off the patients. One of these sufferers, an old man, was admitted from the Dhurumsalla. Extensive ulceration of one foot existed with induration and discoloration, the consequence of a leprous diathesis; purging ensued and destroyed the patient. Another individual, having extensive sloughing of the foot and loss of the toes, accompanied with necrosis of the tarsal and metatarsal bones, consented to amputation, but on the table, his courage failing him, he was removed. Scurvy of a most severe character, in this case, supervened, resisting all the remedies, and notwithstanding the greatest attention the patient died, after enduring the greatest suffering, in ten days after the septic symptoms appeared." 30.

The following brief but graphic sketch will give some notion of what one is too often apt to witness in the East.

"In another case, a most horrible object was taken out of a ditch, left there no doubt to perish; sphacelus of the penis, involving the whole of the scrotum, had taken place; the parts were a perfectly soft gangrenous mass. The patient was pulseless and almost lifeless. The mortified parts were immediately removed; the natural passage of the urethra was discovered, and the accumulated urine drawn off. Yet, notwithstanding the most assiduous employment of ammonia and the diffusible stimuli, the powers of life could not be restored." 31.

The case of strangulated hernia mentioned at p. 32, shows (at least with respect to Natives of India) that one should not despair of the success of an operation even when circumstances appear the most discouraging. *Poisoning* is included under the head of "other Diseases"—and the practice is illustrative of the peculiar morality that "the mild and innocent Hindoo" occasionally exhibits, when he wishes to make free with your property. A London thief will dive his hand into as many of your pockets as he can, and extract the contents. Blackie takes care to make all secure by first stealing your brains, artfully dropping the pounded seeds of Datura in his victim's pots and pans. The recipient, eating of these *hocussed* curries or sweetmeats, gets curiously fuddled at first, playing all sorts of antics, and then falls away into a state of insensibility, when his friend disencumbers him of all his moveables, and then takes French leave. This system is very common all over India—and death sometimes ensues; —but what of that? It is an accident that these Jeremy Didlers of the Tropics are mighty indifferent about, so long as they feel satisfied that dead men tell no tales.

The annual report of H. M. 2d, or Queen's Royal Regiment, is full and able, and abounds in those particulars, the want of which in reports leaves the mind so dissatisfied. It says much for the temperance of the regiment, that during the year there had not been a case of delirium tremens. In noticing the decreasing number of cardiac and aortic diseases, Mr. Hunter remarks—"it was no doubt the frequent and protracted brigade drills of Poona, *aided by the still faulty dress*, which rendered these diseases so remarkably fatal at that station." The same conjoint cause is in frequent, it may be said continual operation, at each of the Presidencies, and is unquestionably productive of much mischief. It is now upwards of a quarter of a century since Dr. James Johnson, in his tropical hygiene, wished that "the European badge of distinction could be dispensed with at all festivals, public and private, formal, social or domestic, within the torrid zone." This was a philosophical wish, but commandants are not always very philosophical. They rather like the pomp and circumstance of glorious war, even in the drawing-room, or the ancient hall. It is now upwards of twenty years ago that a pleasant association was put an end to in Calcutta by the despotism of etiquette in dress. It was formed of a number of gentlemen of the different services, and a few professors—the whole rejoicing in the designation of the Amphion Club. Amongst the members was the General Officer commanding at Fort William. The weather in Calcutta *is* sometimes tolerably warm, and no mistake. The members attended the first meeting of the Club ready for action, and dressed in the light habiliments which make oriental heat endurable. Our Major-General's delicate sense of military proprieties was shocked at this. It jarred upon his *amour propre*. The

indecorum must be abated. In the interesting history of that eminent self-denying young hero, Jack Horner, we read that

"Jack lov'd mutton pies—
But he lov'd to be wise."

Our Martinet loved music, being himself musical also—but he loved regimentals. So unsuspicious of any harm, the good easy man gave an order potential that all military tweedledums and tweedledees, members of the renowned Amphion Club, should always come dressed in full military uniform. Fancy a stout gentleman besworded, besashed, and becoated, and bebooted, playing an obligato on the violin, another blowing a clarinet with a face minacious of apoplexy, and a third wrestling desperately with the double bass! The idea was dreadful—and so with a whir the Amphionites dissolved themselves into thin air, and never met in harmony again—but consoled themselves with sundry puns, each exclaiming *am-fie-on-it* at the Martinet's ill-timed zeal for uniformity of costume! This constantly going in harness like a cab-horse may have a very military look, but is very uncomfortable, and certainly injurious to health. Many is the man too, sent to his long home eventually by the system of over-parading, or rather too much parading on days, or at periods of the year, when the men ought to be quietly in their barracks. The Regimental Surgeon, though his hospital may be overflowing in consequence of such over-parading, feels probably like the writhing Prince of Denmark:

"But break my heart, for I must hold my tongue."

If commanding officers were to think more about the health of their men, and of their moral happiness than their appearance, on parade or frequency of drill, it were well for the service and the State. Some there are who literally are a curse to all under their authority, keeping every one from the Major down to the Drummer-boy in a continual fret and worry, inimical to good order, discipline and real efficiency, to say nothing of health. How often have valuable lives been hazarded or lost by men being kept hours and hours in the sun, or the rain, perhaps adding to the vain pageantry of a funeral, or awaiting to salute some great man who ought to be above the vanity of exposing men unnecessarily in a trying climate on account of a mere passing reception, a ceremony often more honoured in the breach than the observance. Mr. Martin* mentions a circumstance respecting a very distinguished and gallant regiment (H. M. 13th Light Infantry) to which it is probable that, if medical men could always speak out, many a parallel case might be found. "The corps was marched cruelly, because unnecessarily, during the hot season from Nudden to Burhampore. The young soldiers had previously been drilled in the sun thrice a day, so as to greatly injure their healths before quitting Calcutta." The effects we are further told were fatal to a remarkable degree.

In what Mr. Hunter terms cerebral fever, more peculiar to the termination of the hot season, we seem to recognise the same disease as that which came under the observation of Dr. Henderson and Dr. Monat in Bengal—and which afterwards came prominently under the attention of

* Influence on Tropical Climates, &c.

the latter very able and distinguished physician at Madras, and obtained the marked notice of the late Dr. Murray, the lamented Inspector-General of Hospitals. "In this fever," says Mr. Hunter, "I believe the best practice to be a moderate venesection on admission, 12 or 14 oz. according to the tolerance, age, and constitution of the patient. Large bleedings I conceive to be positively injurious in all the fevers of Deesa, by creating or increasing the congestions." How a free bleeding in this or any other fever should *create* congestion, is a paradox which Mr. Hunter does not explain. We shall, however, perhaps be able to understand his meaning better with Dr. Monat's assistance. Dr. Monat, in the case of *Insulation* which fell under his notice, remarks that large bleedings in some instances did no good. "In fact, two individuals became convulsed, and shortly after they were bled, died; and after death it was found that, *though the heart was empty, the vessels of the head were loaded with blood.*" Dr. Monat does not fall into the phraseology of Mr. Hunter, and say that this state of the cerebral vessels was *caused* by the bleeding; he knew better, and finding such a state exist notwithstanding the bleeding, he, like an enlightened practitioner as he is, took the hint. He did not leave off bleeding entirely, but made an alteration as to time, and directing cold affusion to the head, bled when re-action took place; or when the vessels of the brain braced by that stimulation, baled back, as it were, the confined wave into the general system. In his remarks on what he calls gastro-enteric or autumnal remittent, Mr. Hunter warns us to have constant reference to the physical signs, since otherwise it is sure to be mistaken for pulmonary disease. "Whether it be from the pain caused by the depression of the diaphragm, I know not, but they refer the seat of it to their chest, which, taken with the dyspnœa, or panting, is sure to mislead." We are not quite clear that we entirely comprehend our Reporter's balanced remarks on bloodletting. In all except the gastro-enteric, he is persuaded that it is injurious, "yet these cerebral symptoms are so insidious during the first or second exacerbation, that we question whether it is not the safer rule to bleed in every case on admission, to the extent of the tolerance, and particularly with young soldiers of a full habit."—Well, but now comes a damper—"nevertheless it must be admitted that the greater proportion of the deaths by hepatic abscess and dysentery as sequels, have occurred where antiphlogistics, and more particularly bleeding, have been most freely employed." We are free to confess that all this does seem somewhat extraordinary; for supposing the free bleeding and the rest of the antiphlogistic treatment to have been properly and judiciously applied, according to individual exigency and necessity, it no more appears why such sequels should be the result, than depriving a lamp of so much oil should make it burn twice as long and brightly as it otherwise would. The cases of consumption furnished by Mr. Hunter are full of interest—and he adverts to a species of tuberculous disease among soldiers, that is masked under symptoms of dysentery, and from the frequency of that disease in India, is *constantly mistaken for it.*

No. V. is a series of reports made to the Medical Board on the Climate and Medical Statistics of Upper Scinde. Bowel complaints and fevers, as usual, were the prevalent complaints. The season had been one of unprecedented heat. During the day a high wind generally prevailed from

the westward, with clouds of dust, while at nightfall it veered to the East. They were in a most open situation, with no shelter save that of the tents. Dr. Owen, with probably great justice, blames the water. The following table of the range of the Thermometer during five months, is furnished by Mr. Patch, Surgeon, 21st N. I.

	April.	May.	June.	July.	August.
Minimum	88	53	63	64	62
Maximum	92	104	107	109	107
Mean of Minima . .	58	75	82	83	69
Mean of Maxima . .	76	84	97	103	99

The temperature, it appears, goes on increasing in a regular manner monthly to July inclusive, but sudden changes are of frequent occurrence, and comparatively cold gusts of wind come down from the ranges of the mountains. There is a great increase of fever cases as the temperature diminishes. Mr. Wright, Assistant Surgeon 25th N. I. reporting on the climate of Moostoong, shows fever to be the predominating disease. It was the same at Kelat. The cause Mr. Wright refers to malaria and solar heat. At Kotra, Mr. Babington, Assistant Surgeon of cavalry, reports the climate as exceedingly bad—the number per cent. under medical treatment from 1st Feb. to 31st August, 1841, (the best months) being 27 per cent. per mensem, and 112 during the worst. The mortality during four months was 13 out of 175. Respecting Shiakarpore, Assist. Surgeon G. F. Forbes, 8th Regt. N. I. states the worst months to be from October to March—and the number of Sepoys under medical treatment during that time as 36 per cent. per mensem. Deaths none. Assistant Surgeon Jephson reports the climate of Sukkur as very oppressive, and this has been further experienced to be the case in connexion with the operations of Sir C. Napier. The unhealthy season is during Oct. and Nov. while the Indus is falling after the annual inundation. Malaria is, of course, rapidly generated, and to this we may principally look as the cause of a fever variable in character from the intermittent to the remittent type, the latter often assuming a typhoid form. He considers the climate, however, as healthy for natives. Surgeon Edwards, 23d N. I. considers the climate (being very dry) as decidedly healthy, save during October and November. The average number of his regiment under medical treatment during the best months, was 6 per cent. and 12 during the worst. The camp ground had been chosen by medical advice, and the result proved how judiciously. Medical officers are too seldom consulted on the site of encamping ground or barracks. This is an unfortunate oversight, and thousands of lives have been the sacrifice. Once let barracks be built, or any line of cantonments, in an insalubrious situation, and the mischief is incalculable. On this head we would say most literally to the inquirer at any of the Presidencies, and throughout India, si monumentum quæris circumspice. If we might hint a possibility of improving Medical Board returns, perhaps

it might be in the form of a note, specifying how long the subscribing medical officer had been in India. This would be an invaluable guide to us, reviewers, residing at a distance, in forming an estimate of the amount of dependence to be placed on individual experience.

Article VI. gives an account of the Epidemic which prevailed among the men of H. M. 17th Regt. when quartered in Colabah Barracks, after its return from the Affghan campaign. In June, 1841, the whole regiment was in barracks at Colabah until September, when the head quarters embarked for Aden, leaving nearly 200 sick at Bombay. As well as we can understand, (for Dr. Thompson does not preface his returns with a description of the fever) the disease may be considered to have been a cerebral remittent, with great depression of the vital powers, or apparent depression. No question is of greater importance than that of bloodletting in many diseases, but especially in such as these fevers, where it is manifestly one of time, requiring the greatest nicety of decision and discriminative tact on the part of the practitioner. Bloodletting, Dr. Thompson tells us, was tried in some cases, but did not succeed. Let us look a little into this matter. We admit upon the evidence of that experience which every tyro soon acquires without Armstrong's inspirations being required to prove it, that in some cases where there is congestion, (more especially in the head,) depletion must have a reference to re-action. Case No. 3 is manifestly given "*to illustrate the injurious effects of depletion.*" Here is the case.

"Private Thomas Footed, aged 25 years; in India 2½ years; of a muscular frame; admitted on the 18th June, 1840, with fever of a low type, and with symptoms of congestion of all the organs, was bled to 16 ounces, and had sixty leeches applied to the head, and a blister to the neck; a dose of calomel and antimonial powder and an ounce of wine to be given every second hour.

"*On the 29th the report is,* pulse 125, weak; no remission of fever; no sleep; bowels open; respirations frequent and labouring; no irregular sound from lungs; great prostration of strength. A blister was applied to the chest, five grains of calomel and two of opium given, and wine continued every second hour.

"4 P.M. 29. Blister risen well; heart's action and that of lungs increased; pulse 128, small; skin hot and moist; no clammy perspiration.

"9 P.M. 29th. Is much worse; pulse scarcely perceptible; had slight delirium; skin covered with cold perspiration. Expired at 10 P.M. on the 29th June.

"*Sectio Cadaveris.* Body in good condition and muscular; slight congestion of the lungs and liver; considerable effusion of water on the base of the brain and along the spinal canal."

We have to regret that, in the above case, the state of the face, the eyes, the tongue, and the pulse is not mentioned. We infer that the skin was very hot. We are not told in what position the man was when bled. We are not informed why 16 oz. and no more was abstracted. It could scarcely be from faintness, or collapse, since 60 leeches were forthwith clapped to the head. While depletion is going on with one hand, however, stimulation with wine is carried on with the other. Would not cold affusion have been beneficial in such a case? Dr. Monat, when actual disease of the same nature occurred, with sinking of the vital powers, would give a grain of opium to produce re-action, and then bleed largely,

followed by full doses of calomel and purgatives. The history, or rather the abstract of two fatal cases preceding the one quoted, is not sufficiently precise to give us very clear ideas upon the subject. In regard to the first, the duration of the symptoms previous to admission is not stated, nor the state of the bowels. On the 10th of October there was *severe increase* of the fever. Was not the use of the lancet then indicated? Examination of the body after death showed serous effusion at the base of the brain, and along the spinal cord, congestion of blood in the internal organs (where?) of the body. In the second case, the patient is admitted on the 9th of Oct. there is great prostration of the powers of life, and slight headache, (page 116). He gets a large dose of quinine. The remission lasted two hours. No blood had been taken away in the accession—some pain in the abdomen. On the 11th, 60 leeches were applied to the abdomen, but we are not told whether this was at the accession of a paroxysm. Judging from the result, we should say it *was not*, but the contrary, since the report on the 12th is "extreme collapse"—and next day death ensues. The post-mortem results much the same as in the case already quoted. The cause of the fever is made sufficiently clear by the following extract. Who built the barracks at Colabah? On whose advice was the locality chosen?

"1st. The barracks at Colabah are built almost on a level with the sea. 2d. The floor is formed of a deliquescent stone, which in damp weather is always wet, so that it is impossible for the men to keep their feet dry. 3d. During the rains the water stagnates round the barracks, there being no proper facility for running it away, so that the ground becomes a perfect marsh. 4th. The sea recedes so far as to expose to the sun half a mile of shore covered with slime and marine vegetation; and as the privies are situated here, the smell is often disagreeable." 90.

Mr. Moffat's Report (Art. XI.) is an excellent one. He insists upon the propriety of an European regiment, for the first year of service in a Tropical climate, being kept at a healthy station. This has been a matter not sufficiently attended to; and we would refer the reader to Mr. Martin's article "On the Selection and Improvement of Localities for the European Troops." One great desideratum during the prevalence of rainy weather, he strongly recommends, and we can testify to its judiciousness, we mean the supply of guard-rooms with stoves, to enable the men to dry their clothes, and to warm themselves, after their turn of sentry is over. There is much in this valuable paper that we should like to quote if we could spare the space. Although Mr. Murray's paper on the use and abuse of Calomel contains no new facts, and no information but what may be found in other works,* still it is useful to be able to refer to a document where all the effects may be seen at a glance.

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* See Influence of Tropical Climates, page 281, the work passim, &c.

The Influence of Climate, and other Agents, on the Human Constitution, with reference to the Causes and Prevention of Disease, among Seamen. By *Robert Armstrong*, M.D. F.L.S. Deputy Inspector of Hospitals. Pp. 207. London, 1843.

The substance of the present work was originally prepared by the author in the form of lectures intended to be delivered by him, when in charge of the Naval Hospital at Jamaica, to the various medical officers serving upon that station. He therefore directed attention principally to those subjects likely to be useful to the younger branches of the profession upon their first entering the service, often fresh from the medical schools, thoroughly imbued with the various theories there prevailing, but little if at all acquainted with actual practice. He much wished to caution them against falling into mere careless routine, accepting certain vague terms as sufficient explanations of the phenomena passing around them, to the neglect of the employment of their own powers of observation and thought. Just as he was upon the point of delivering them, however, his appointment to the Naval Hospital at Plymouth, threw him into a different sphere of action, and his notes were put aside. The manuscript having been perused with advantage by several surgeons of ships ordered to the West Indies, Dr. Armstrong has, at their invitation, revised it, and adding some further illustrations, published it in the present form. The first nine chapters relate to various matters connected with the production of disease among seamen, and the hygienic precautions adapted to warding it off; the three last treat of fever in general, and of the yellow fever of Jamaica in particular.

We proceed to extract such portions as we think will interest our readers.

Speaking of the effects of locality and mode of life in inducing varieties in animals, and the human race, the author observes:—

"The influence of warm climates is apparent after a few years residence within the tropics: Europeans lose their sanguineous complexions, and acquire the power of resisting the heat better than the new comer. This power of accommodation to circumstances, arises from a corresponding change in the functions of life; and which is usually attributed to the individual having undergone the process of seasoning;—a process of which the most vague opinions seem to be entertained. Even within the limited extent of our own country, we observe the influence of local situation, on comparing the natives of mountainous districts with those in the low country. Among the former, examples of tall individuals are less frequently met with. In the mountaineers, the chest will be found more expanded, and the circulation more vigorous; the muscular system more developed, and the forms harsher. The bilious temperament prevails; and they possess a greater quickness of temper and energy of character.

"This greater development of the respiratory apparatus, seems to result from the physical necessity of situation. In the habit of ascending and descending heights of considerable elevation, and generally breathing a more attenuated atmosphere, the organic apparatus acquires greater capacity and vigour, to enable it to afford the necessary supply of atmospherical oxygen. In level countries, on the other hand, the inhabitants are usually of taller stature: the general con-

tour of the figure is more rounded, from the preponderance of the cellular and adipose tissues. The prevailing temperament is the sanguineous. The chest, when viewed in relation to the size of the body, is less expanded; and they are not so well adapted to undergo fatigue when removed from their native districts. Differences of situation even impress upon the constitution a disposition to particular diseases. Scrofula and consumption are of more frequent occurrence in the plains and agricultural districts, than in the mountainous parts of the country.

"Let us observe man under other circumstances, as in the crowded districts of a great city, or assembled in masses in our manufacturing towns. Here he is employed in occupations in which dexterity rather than strength is required; and breathing an impure atmosphere with bad lodging and bad food, the body does not attain its full development, and he is deficient in muscular power. This acquired constitution of body is transmitted to the offspring. His diseases are also modified by his condition; and the constitution has not the same power of reparation in cases of injury or disease. This permanent deterioration in the qualities of the race, has been clearly proved by their disqualifications for those offices, where a certain standard of size and strength is required. It is asserted that men from Spitalfields, and other crowded districts of London, who come forward as candidates for employment in the police force, fall short of the required standard; and that two out of three are rejected, as physically unfit for service.

"'It is observed in some of the worst conditioned of the town districts, that the positive number of the natives of the aboriginal stock continually diminishes, and that the vacancy, as well as the increase, is made up by emigration from healthier districts. In a late enumeration of the settled inhabitants of Westminister, it appeared that not more than one-third of them were natives of London. Sir James McGrigor, the Director General of the Army Board, stated the fact that a corps levied from the agricultual districts in Wales, or the Northern counties of England, will last longer than one recruited from the manufacturing towns, from Birmingham, Manchester, or near the metropolis. Indeed, so great and permanent is the deterioration, that out of 613 men enlisted, almost all of whom came from Birmingham, and five other neighbouring towns, only 238 were approved for service.'*"

Dr. Armstrong observes, that although the animal economy is enabled to regulate its supply of animal heat according to the temperature of the climate or the season, yet some time is requisite to accustom it to any considerable change, and the period of such transition is one of susceptibility to disease. When a large ship of war is commissioned, men are received from all quarters, and comprise not only good and experienced seamen, when they are to be obtained, but also volunteers of every possible variety of constitution, who have frequently been living in a dissipated, profligate, or destitute manner. While the equipment is going on, the working parties in the dock-yard are much exposed to the weather, and catarrhs, febrile and rheumatic attacks, &c., prevail among them; but, as the diet is good and abundant, the ship's company becomes much improved in appearance; while some of them, from the contrast to their former fare, become diseased through repletion. The marines enjoy invariably a higher state of health than the seamen, owing to their restriction to their barracks when on shore, and to their strict order and regularity. When the ship pro-

* Poor Law Commissioners' Report, 1842.

ceeds to sea, a complete change in the habits of her company ensues. Their diet is salt meat, and their rest disturbed by the alternation of watches; and if stormy weather occurs, inflammatory affections soon manifest themselves. If the vessel be destined to the West Indies, a tropical temperature, involving a change of 30° or 40° Fahr., if she sailed in the winter, may be attained in a fortnight.

"On approaching the warmer latitudes, the looks of sailors improve; as the ship glides along before the north-east trade-wind, under a clear and blue tropical sky, days often pass without a sail requiring to be shifted. The temper of the ship's company becomes more cheerful—a greater degree of alacrity is observed in their movements—the skin becomes softer, elastic, and more vascular, with an increase of perspiration,—and they enjoy a superabundance of health, if the phrase may be allowed. In some cases of indisposition, so slight as scarcely to deserve notice, a few ounces of blood have frequently been drawn as an experiment. It exhibited on every occasion the buffy coat, as we find in other cases of excitement. The crassamentum was firm, and evidently contained a larger proportion of fibrine than usual."

Under these circumstances, the amount and quality of diet allowed continuing the same, much evil would probably result, but that Nature, more wise than man, diminishes the assimulative powers. As it is, however, some derangement of the secretions, accompanied by constipation, usually occurs: and when disease does appear, it does so usually in the form of inflammatory fever with determination to the head. Boils and prickly heat exert sometimes a useful derivative influence.

"Supposing the East Indies to be the destination of the ship, they pursue their course to the southward, and stretch towards the South American continent. On getting beyond the limits of the South-east trade, they steer to the South-east, and run into the latitude of 36° or 38° South, where strong westerly winds are found to prevail. In fourteen days, or three weeks, they are again wafted into a cold climate, where the temperature is from 36° to 40° Fahr. and sometimes at the freezing point. The ship continues on this parallel, across the Southern Ocean, for a distance of three or four thousand miles. During this run, nothing is seen to divert the mind; and the countenances of the persons embarked will be found to have undergone a change, and assumed a certain haggard expression. If examined closely, the gums will be seen to have lost their natural red hue, appear shrivelled, and present a whiteness around the roots of the teeth.

"The diseases which now appear, especially if the weather prove wet and cold, are pneumonia, rheumatism, catarrh and diarrhœa: the accompanying fever being of the low, nervous type. In some cases of slight indisposition a few ounces of blood were drawn from the arm, rather by way of experiment than from necessity; and it was found to be less florid, and slower in coagulating, than within the tropics; the crassamentum was easily broken down between the fingers, and evidently contained a smaller proportion of fibrine or coagulable lymph. This was observed in seven convicts under thirty years of age, and three soldiers, out of a party of 40, embarked as a guard. The former, although prisoners, were allowed to come on deck before the mainmast when they pleased, and occasionally assisted in working the ship of their own accord. The soldiers did duty as a guard, and were on full rations; while the convicts were on two-thirds, or six men had the allowance of four seamen, but they had many comforts in addition.

"If India be the place of destination, on reaching the 70th or 80th degree East Longitude, they direct their course North, and soon get to the South-east trade-wind, which carries them into the Bay of Bengal. Thus, in the short

space of three or four months, the ship's company have experienced two Summers and two Winters.

"Although actual disease may not have appeared during these rapid and extreme changes of climate, it cannot be doubted, that a certain excitability of constitution is generated, which renders the body more susceptible of impression from the ordinary exciting causes of disease." 32.

The author is no believer in the existence and agency of *malaria* in the production of disease. Its production by the miasmata generated in marshy and other unhealthy districts and places, such as ships' holds, &c., he considers as quite unproved. On two occasions, when fever was prevailing extensively in Batavia, he exposed himself at night purposely to the exhalations proceeding from localities possessing all the physical characteristics said to be favourable to the production of malaria, with impunity. He concludes this part of the subject as follows:

"In the preceding detail, it has been shown, that we are utterly ignorant of this animo-vegetal poison: that no two authors agree respecting its nature, the circumstances under which it is generated, or its effects upon the human body. How then are we to reconcile these discrepancies with the existence of a material said to be possessed of such tremendous activity—a material of whose existence we have no proof, and of whose physical qualities we have no knowledge? What grounds have we for supposing, that the materials which are said to give rise to this mysterious and invisible something, should continue for indefinite periods of time in a state of inactivity, as far as regards its production, and yet be undergoing the changes inherent to organized matter all the while? How can such materials let loose for a season exhalations which kindle up the most untractable diseases, and again become dormant? Such capricious movements among the particles of matter are at variance with the established laws which regulate chemical action in all other cases.

"All our reasonings, therefore, respecting the nature of these miasmata, are founded on an assumption; and consequently want that certainty which constitutes the only sure ground of belief. The existence of this material can only be regarded as an assertion—a species of evidence which is not admissible in the inductive sciences; and until proofs be brought forward of a very different kind from any yet adduced, we cannot acknowledge, without admitting contradictions and impossibilities, the existence of this vegeto-animal poison. The belief in such a material has an injurious effect, because it tends to suppress all observation and inquiry into the various causes of disease; whereas, by close observation, and the correct application of well-known principles, we shall soon find, that there are many powerful causes operating upon the bodies of men in warm climates; and which are fully sufficient to account for the ravages of disease, without the necessity of calling in the aid of aerial and unsubstantial phantoms." 71.

Among the powerful causes alluded to in the above extract, Dr. Armstrong includes the various meteorological changes in the state of the atmosphere, as evidenced by the varying condition of its electricity, magnetism, and weight. Then again the "sol-lunar influence" should by no means be disregarded. He remarks further:

"These investigations appear to have been entirely neglected or overlooked by medical officers in the public service, yet there is no class of men who have greater opportunities of contributing to scientific knowledge. The state of the atmosphere and the intimate connexion which subsists between it, and the condition of the various functions of life, are of the utmost interest and importance,

both in health and disease; and in this extensive, and yet untrodden field, a rich harvest may be reaped. An account of the temperature of the air night and morning, as inserted in the journal, without reference to other circumstances, is of comparatively little value, and cannot afford data for any practical results. The dryness and humidity, the sudden changes of temperature, and of the electrical condition, should be carefully observed. The radiation of heat in warm climates; the geological structure of the country; and the periods of the accession of diseases, are also objects of the greatest interest, and by common industry and observation, much valuable information may be obtained."

Although we cannot agree with the author in his views respecting the non-existence of malaria, we believe great good must result from directing the attention of medical officers to the various other potent causes of disease, many of which are susceptible of mitigation or removal. Thus the change of habits, diet, &c., on arrival at the ship's destination, the laborious employments then performed aboard her, under exposure to the sun's rays, together with indulgence in spirituous liquors, give rise to much disease. Not only is exposure to a tropical sun a fertile source of mischief, but the variation of temperature is so likewise. Thus the ship's company, while in harbour, is crowded into so small a space that each man has seldom more than 16 inches at his disposal. The temperature of the lower deck has been often observed at 90° or higher, while the air on deck did not exceed 70° or 75°, with a strong breeze loaded with moisture blowing. On coming on deck a slight shiver or chill occurs. "Getting out of bed in a state of profuse perspiration, they will remain in this cold air for a time to cool themselves. On returning to their hammocks, they feel chilled and restless, and some febrile attack succeeds. Many cases of fever, acute rheumatism, pneumonia, and dysentery could be clearly traced to this cause." The great increase of sickness during long-continued hot weather has been frequently remarked; and the statistical report shows this to be the case, not only in the West Indies, but in the East, the Mediterranean stations, &c. Even moderate exposure to the sun, when conjoined with active employment, is highly injurious.

The author considers the changes of temperature, to which the soldier and sailor are exposed in hot climates, have not been sufficiently dwelt upon.

"These changes are greater, it is true, in some months than in others, but they occasionally occur at all seasons. At Port Royal, I have repeatedly observed a reduction of from 15° to 20°, in the space of half an hour. About sun-set, when the sea-breeze had died away, and the air was perfectly calm, a thermometer placed in an open balcony would indicate 86° or 90°. A strong land breeze charged with moisture, would now come down in strong gusts from the mountains, and reduce the thermometer to 68° or 70°, and sometimes lower. At midnight, and at sunrise in the morning, the thermometer has often been observed at 70° and 72°: the air was then cool and pleasant, and half an hour's walk along the beach was most invigorating. Between nine and ten o'clock, when the land-wind had subsided, and before the sea-breeze had set in, the thermometer would be from 84° to 90°.

"The duck frocks and trowsers afford a sufficient covering during the day, when the temperature in the shade is from 80° to 86°, and many degrees higher in the sun. In the evening, when the temperature is reduced by the cold land-wind saturated with moisture, and consequently its conducting power greatly increased, warmer clothing is absolutely necessary. During calm, clear nights,

the radiation of heat, and evaporation from the surface of the body, farther co-operate as cooling processes." 87.

These vicissitudes, the author considers, explain the occurrence of many fevers, acquired during night-duty, and attributed to miasmata. Parties, so employed, when supplied with spirits or other stimuli, do not suffer in the same way upon exposure to night-air.

Moral causes have ever had a great effect in inducing or warding off disease in naval and military expeditions. Confidence in the commander and in the success of the undertaking, exerts a powerful conservative effect upon the health, even in the midst of privations, while active operations have a no less beneficial tendency. Where, however, the officers show indecision in their proceedings, success does not follow the efforts made to achieve it, or a long period of inaction after continued successes is unavoidable, then the cases of disease become very numerous. The bad reputation for salubrity which is attached to the Coast of Africa induces a dread among seamen and officers, which powerfully facilitates the inroads of disease. In the West Indies, too, it has long been observed that those who entertain the greatest dread of the climate, first fall victims to fever, while those who take common prudential precautions merely, usually escape. Dr. Armstrong instances also the late Niger Expedition as a strong example of the ill effects resulting from the combined operation of a depressed condition of the moral powers, (engendered, in a great degree, by over-precaution,*) fatigue, and exposure.

"In this ill-fated expedition, various circumstances conspired to excite gloomy

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* We extract a passage from a well-written review of M'Williams' History of the Niger Expedition, contained in the pages of our able contemporary, the Athenæum, (1843, p. 603.)

"This is the history of the mortality attending an expedition, in which the greatest pains seem to have been taken to keep the minds of all engaged in it intent on disease and death. Precautions were carried to such an extent that even the very air was physicked. Dr. Reid's system of ventilation—a fine example of science for the million—was applied to the vessels built for the expedition; but as it seemed that ventilating with unwholesome air, was only beating up with much ado from Scylla to Charybdis, an empyrical method was hit upon of freeing the air from the impurities with which Nature's chemistry is supposed to have filled it. Accordingly, the air gathered in the wind-sails aloft was conducted into a chamber where its floating poisons were extinguished, or supposed to be extinguished, by the superior poison of chlorine; and the zephyrs thus sweetened, *secundum artem*, with the balmy influence of quick-lime and sulphuric acid, were diffused below decks.

"Thus the men under cover respired only medicated air—on deck, of course, they were obliged to breathe fresh air unmedicated, but in that case they were taught the danger of inhaling air which the Doctor had not overhauled. 'Those who are obliged to be on deck on duty (we quote Capt. Trotter's general orders) will be supplied, when in unhealthy localities, with respirators.' Supplied with respirators! Alas! poor Jack! how wretched and chapfallen you must have felt, when obliged to breathe through a respirator! The quid shut out, the yarns shut in, your heart and soul kept under gratings—why you must have thought it hardly worth while to breathe at all, when, with a chest capable of respiring great guns, you were compelled to discharge it through contemptible scuttle-holes."

anticipations. The professed object was the introduction of civilization into Africa, and which, no doubt, originated from the most philanthropic motives. Iron steamers were built for the special service, and the officers were appointed from their experience and local knowledge of the country, or interest in the cause. The seamen were volunteers, and received double pay. Stores of all descriptions were most liberally supplied; and, indeed, in this respect, there appeared to be no restriction. Wine and porter were put on board by hundreds of dozens, and large supplies of preserved meats and soups. A ventilating apparatus was fitted to propel air into every part of the vessels; and to purify that air, materials for the production of chlorine were provided by hundred weights.

"On minutely examining two of these vessels, when on the eve of departure from Plymouth, the accommodations of the officers and men appeared small, and were too much crowded. There was no berth for the sick, and they were completely filled with stores. The men appeared to be in good spirits, but it was evident, that they considered the enterprise hazardous; and, indeed, the whole tenour of the conversation of the officers showed a perfect conviction in their minds, that sickness was expected as a matter of course. The unusual preparations that had been made constantly reminded the seaman, that he was entering upon a service different from all others; and in a climate, he was led to believe, pregnant with pestilence and death. This gave rise to gloomy forebodings, and these feelings were still further heightened, by the frequency of religious exercises on board the ships, and exhortations to prepare for another world. This was unprecedented in the naval service. The seaman took no interest in the civilization of the negro, and was out of his element. If placed alongside the enemy, he would understand his position, and be able to clear his way; but here he was subjected to a species of mental torture, but too well calculated to undermine both his moral and physical energies."

After describing the course of the vessels, and noticing the atmospheric vicissitudes, and the fatiguing occupations alternated with periods of inaction of their crews, the author continues:—

"The causes which had been in operation for a period of three months, (by which time they had entered the Niger,) had now produced their effects, and rendered the system more susceptible of impression from any new cause, whether of a physical or moral nature. Their hopes during the voyage had been raised to the highest pitch, but they now saw but a faint prospect of their sanguine anticipations being realized. Fever appeared, and spread rapidly through the ships. The tolling of bells to prayers and funerals, amid the general gloom, was not calculated to inspire the mind with confidence and hope; and, according to the testimony of an officer present, a feeling of despondency and dismay prevailed throughout the ships. From the number of sick, the prosecution of the enterprise was abandoned, after the loss of many valuable lives.

"It is unnecessary to adduce further examples. Those already mentioned are sufficient to show, that moral causes exert a powerful influence over the health of large bodies of men, as well as of individuals; and that promptness and decision in the leader, the maintenance of cheerfulness of mind, and confidence in their own powers, are the most essential elements of success in naval and military operations." 98.

The ease with which what is called *seasoning* in hot climates is accomplished, much depends upon the habits of life pursued. Thus, temperance in eating and drinking is highly important. Men who have passed the meridian of life in England suffer less from heat than younger persons; and indeed life might often be prolonged by removal from a cold to a warmer climate, at the period when the power of producing animal heat

becomes more feeble. Sir Joseph Banks, for years before his death, afflicted with paralysis of the lower limbs, lived in a temperature of 80°. Changes of climate produce however much effect upon the constitution beyond that which is immediately visible. Thus men of sound constitutions may resist every possible vicissitude with success, as far as the positive production of disease is concerned, and nevertheless the "wear and tear" they have been subjected to is visible in the premature old age induced. From this cause few seamen continue fit for active service after they have attained the age of forty-five, when indeed they appear ten or fifteen years older than they are. So, too, the mortality of the troops in the West Indies increases with the advance of age, because, owing to the changes and irregularities they have been subjected to throughout their career, they possess less and less power of resistance to injurious impressions. Climate, however, is not the sole cause of mortality; for the black troops in the West Indies, natives of the country, furnish the highest ratio of mortality of any others, and three times as great as that of the native troops in the East Indies. Dr. Armstrong attributes this to the full diet of animal food which is furnished them in the West Indies, quite unsuited to their former and natural habits, and which the religious habits of the East Indian troops forbid their indulgence in. And this is a grave error in the management of our own seamen, who are allowed in a tropical region the same diet that is found equal to the wants of their systems in a cold climate. The quantity of meat should be diminished, and either vegetables, if necessary, or an equivalent in money, substituted. Much advantage has resulted by giving tea in the afternoon in lieu of a portion of the spirits. The indulgence in stimulating meats and drinks so prevalent among officers is a fertile source of disease. Spirits are, however, very useful when the men are subjected to much boat service by night, sleeping on shore exposed to a moist atmosphere, &c. Tobacco, too, on such occasions, acts as a grateful and gentle stimulant.

Dr. Armstrong thinks little utility arises from fumigating ships with chlorine, &c. and believes the noxious gases, against which this is directed, to reside chiefly in the imagination. He thinks bad smells, &c. can arise only from the neglect of cleanliness; but this must be a rare occurrence, as the opposite extreme of excessive cleansing and rubbing is usually pursued. Plenty of water and a good ventilation of the decks are all he considers necessary. Dr. Reid's apparatus is too bulky for small, and cannot be required for large ships. The author suggests a simpler plan, by supporting the combustion in the ship's coppers with air drawn from the hold.

Some reform is clearly called for in reference to the *change of clothing* of seamen. At certain seasons orders arrive for the substitution of duck for cloth trousers and the reverse, and this irrespective of the actual temperature which may be prevailing. In tropical countries, the light clothes worn during the employments of the day with comfort and advantage become quite improper in the evening; and whenever cloth or flannel have been used instead, great advantages have resulted. Flannel and blankets are especially necessary, where night service is frequent. So, too, when the ship is ordered home to be paid off, a liberal supply of warm clothing should be issued to the men when she reaches lat. 30° N., to enable them to meet the cold which awaits them.

In bad weather, seamen suffer grievously from *damp clothing;* having nowhere to dry it, it is put on again nearly as wet as when taken off. Not only would the seamen's health be improved by due attention to affording him facility for drying, but the clothes, which are now thrust away wet in bags to become mouldy and injured, would be much better preserved.

Personal cleanliness is often too much neglected by the ship's company, most contenting themselves with washing the face and neck. When the weather allows, bathing should be freely encouraged; and the danger which attaches to one or two persons bathing in warm latitudes, on account of the presence of sharks, does not exist when a great number partake of the amusement, even in the very haunts of these animals, the splashing and commotion of the water seeming to alarm them. The decks should not be kept constantly wet or damp. Washing them once a week, and drying them rapidly with hot sand, or a swing stove, answers every purpose of cleanliness in cold or damp climates. In warm dry weather this may be performed oftener. Dry-rubbing with sand and stones effectually cleanses.

Yellow Fever of Jamaica.—Passing over the author's remarks upon fever in general, which contain little novelty, we extract a few observations upon the epidemics of Jamaica which he witnessed.

These epidemics, he conceives, were not produced by causes connected with the soil or locality, but were dependent upon adventitious circumstances and individual susceptibility. One ship would remain free of fever, although in communication with another at the same anchorage in which it was raging. The attack was often induced by active exercise and exposure to the sun or night air. When the fever had become developed, great determination to the head and oppression of the respiratory organs occurred. About the third day, these, with the heat of skin, become diminished; and on the fourth day, the conjunctivæ and surface of the body, to a greater or less extent, acquire the yellow colour which has furnished the disease with its pre-name. About the fourth or fifth day pain sometimes subsides entirely, the pulse does not exceed 70 or 80, while the temperature of the body is natural and the skin and tongue moist. The patient, if not prevented, arises and dresses himself. "A medical man unacquainted with the insidious nature of this disease, would immediately pronounce the patient convalescent, and more than one surgeon, on his first visit to the hospital after arrival from England, expressed the greatest surprise and incredulity, on being informed that the patient would not survive 24 hours." This "fatal lull," as it is termed, continues for three or more days sometimes. Eventually, delirium, variable pulse, reduction of the natural temperature, and other marks of prostration, occur. The *black vomit* seldom appears before the third day, or when the violence of the original febrile symptoms has subsided. It is a singular fact, too, that the dark matter forming the black vomit is found in the stomachs of those who have died of other diseases than fever.

From very numerous post-mortem examinations the author concludes—

"That the yellow fever of Jamaica is a disease of the whole system, in which every organ is more or less affected; with local determinations of blood to particular parts, succeeded by congestion of the vessels; that the tumultuous actions

of the nervous and vascular systems exhaust the vital energies, arrest or suspend the secretions, and but too often terminate in the death of the patient." 181.

Treatment.—The greatest diversity of opinion prevails with respect to this. According to Dr. Armstrong's experience, if the patient is subjected to active treatment sufficiently early he may be frequently saved; but that after the second or third day, the opportunity for putting this into force has passed away, and all measures are too often useless. Free and quickly repeated bleeding should at once be had recourse to, and although from 20 to 40 oz. will usually suffice, other cases may require the loss of 90 oz. The patient should be immersed in a warm bath, and the skin thoroughly cleansed by soap and flannel. Next administer an active purge containing several grains of calomel. In many cases rapid recovery results. Where, however, the symptoms are only partially relieved, leeches or ice to the head, and stimulation to the skin by a warm salt-water bath, or ammoniated liniments, should be had recourse to, giving laxatives from time to time.

In 42 cases, tartar emetic, combined with calomel, was used with evident advantage, preceded by bleeding and followed by purges. It was never given later than the first 24 hours, and prevented the necessity of excessive abstraction of blood. Difficulty arises in affecting the gums with mercury, when given from the commencement of the disease, but they become more easily affected when antimony is also given. It is very doubtful whether the mercurial treatment has any superiority over any other. Calomel combined with opium was found useful in torpid conditions of the nervous and sanguiferous systems, an occasional turpentine purgative being also given. There is no truth in the supposition that ptyalism affords any protection, for syphilitic patients, while salivated, become affected with the fever.

In the advanced stages of the disease, whatever is done, death still usually occurs. Tonics and stimuli are to be given; and, indeed, the great object is to maintain the heat of the body by internal stimuli and external warmth. A pint of brandy, and a bottle or two of porter, and even larger quantities may be consumed daily without injuriously augmenting the pulse or heat of surface.

It is an error to suppose that having had the fever once always gives an immunity against a second attack. It does so usually, but not always. Dr. Armstrong says:—

"It must be admitted, however, that men who have already had an attack of fever, are much less liable to suffer from it again than new comers. If, however, they returned to England, and joined another ship ordered to the West Indies, they appeared as liable to suffer as those who had never before been on the station."

Although not prepared to deny that the disease may never become *contagious*, the author is clearly of opinion, that it is not so under the circumstances in which it is usually observed.

This book has no pretensions to be considered a complete treatise upon the subjects it treats of. It contains, however, some good practical remarks, and will prove useful to young naval surgeons.

Natural History, Pathology, and Treatment of the Epidemic Fever, at present prevailing in Edinburgh and other Towns: illustrated by Cases and Dissections. By *John Rose Cormack*, M.D., F.R.S.E., &c. London, 1843.

In the number of the Edinburgh Medical and Surgical Journal, published on the 1st of January, 1844, we have a lengthened article from the pen of Professor Henderson, regarding the Epidemic prevailing in Edinburgh. The almost exclusive object of Doctor Henderson in that article seems to be to prove that the epidemic then prevailing, and which, for aught we know, still prevails in Edinburgh, is essentially distinguished from ordinary typhus by very striking and prominent characters. These distinguishing characters we shall not fail to notice in the course of our analysis of Doctor R. Cormack's monograph. The difficulties which encumber inquiries into the history and pathology of continued fevers, are universally felt and acknowledged. These difficulties may be referred to several sources, as, for instance, to the circumstance, that continued fevers have a number of characters common to them all. These coincidences, or points of resemblance between them, consisting of those prominent characters by which they are broadly distinguished from other diseases, the result has been, that their common disagreements with other diseases, and the similarity in certain points among themselves, have appeared to efface the features by which they should be distinguished from one another. Another source of difficulty is our not knowing the fundamental elements of their pathology; for, notwithstanding the reliance generally placed in nosological classification by symptoms, rather than by a reference to the conditions of the system on which these symptoms mainly depend, still our admission of actual and determinate distinctions among them is always strengthened by the discovery of pathological differences. Another source of these difficulties, which we shall notice, is our neglect of investigating carefully, and with exactness, the circumstances or causes by which fevers are produced. To be sure, as a general principle, the causes form not sufficient grounds either for making distinctions between diseases, or for grouping them together, as the same disease may acknowledge in different persons several different causes, and the same cause may occasion very different diseases; this latitude, however, existing between the causes of disease and their effects, does not exist between all causes and all diseases. There are some diseases which can only be produced by one cause, and certain causes which can produce but one kind of disease. There are many, very many examples, which corroborate this doctrine. Still the use which may be made of it in determining the distinctions among continued fevers is not very obvious—while it is granted that nothing is known of the actual nature of the poison or poisons by which continued fevers are produced, their production by some poison or other is still admitted. Some physicians, while they admit this, deny the specific nature of the poison which produces typhus fever, considering that its variability is one very influential source of the many diversities discovered among continued fevers, in which diversities they still recognise essentially the

same disease. In our analysis we shall see how far Dr. R. Cormack is disposed to admit the distinctness of the present epidemic from the ordinary typhus.

Dr. Cormack divides his work into six chapters. The first treats of the *Moderately Congestive Form of the Disease.* In this form he first notices a peculiar *bronzed* appearance of the patient's countenance—the patient is first seized with coldness, rigors, headache, pain in the back, and prostration of strength. The cold terminates after a period varying from half an hour to several hours, when the headache generally becomes more severe—a dry burning heat comes out over the whole body, accompanied by thirst and general uneasiness. This hot stage is succeeded by a sweat, usually very profuse, continuing for a number of hours, seldom attended with relief to the headache. Sometimes the sweating is delayed to two or three days after the seizure—sometimes also there is no well-marked hot stage between the cold and sweating fits. During the whole course of the disease the perspiration was observed to have a characteristic disagreeable smell, and an acid re-action. During the three stages of the initiatory paroxysm the pulse is rapid, sometimes as high as 150, seldom below 90, and commonly ranging between 90 and 120. This great frequency of the pulse in the new epidemic at an early period of its existence has been noticed by Professor Henderson in the paper already alluded to, as forming one of the grand points of dissimilarity between the epidemic at present prevailing and ordinary typhus. This extreme frequency of the pulse in the epidemic, according to Professor H., seems to be an occurrence warranting no apprehension of a fatal issue, and no anticipation of any greater severity in the other symptoms, than in such cases as have a pulse 20 or 30 beats lower. For the first 48 hours the tongue, Dr. Cormack tells us, continues moist, exhibiting at the same time a white or brownish yellow fur. Afterwards the tongue becomes dry, and longitudinally streaked on the centre with brown, in which state it continues till the approach of the crisis, generally on the fifth day. During the first four days, some of the patients have occasional short rigours; most commonly, however, a state of dry ardent fever exists, with occasional sweatings. In many even of the mild cases nausea and vomiting usher in and attend the sufferings of the first days. Pain at the scrobiculus cordis generally accompanies these symptoms; it is frequently present without them. Severe muscular and articular pain is also observed. Pain in the abdomen on pressure, especially above the pubes and over the liver and spleen, are commonly observed. In consequence of the symptoms now described, the patients enjoy but little or no sleep. A remission is common on the third day; and, on the fifth day, the violence of the disorder manifestly appears to be expended; this state is generally ushered in by profuse sweat, epistaxis, or diarrhœa. After this, the pulse, tongue, and skin, become quite natural, and the facial bronzing is less marked.

On or about the 14th or 15th day from the commencement, the patient relapses; or, in other words, has a paroxysm of fever similar to that which began his first attack. This is noticed by Professor Henderson as another striking point of dissimilarity between the typhus and the epidemic fever. He expressly states, in fact, that the latter disease very rarely consists of but one attack of a continued febrile condition, and so characteristic of the

disease is it to present a succession of attacks with apyrexial intervals, that the term relapse appears to him not less inappropriate to the repetition of the fever, than if applied to the paroxysms of an intermittent. The onset and progress of the second attack is attended sometimes by severer, sometimes by milder symptoms, than those of the first. It is in this the abortions generally occur. A third attack sometimes occurs—this is generally mild.

In Chap. II. the highly congestive form of the disease is described. One of the most common symptoms of this is yellowness of the conjunctivæ, and of the whole surface of the body, generally appearing between the third and seventh day—being most intense on the face, neck, chest, abdomen, and thighs. Associated with this yellowness, there are generally depression, delirium, dusky and often porter-coloured urine, melænic stools, and hæmorrhages from some of the mucous membranes. In the worst cases, black coffee-ground matter is ejected from the stomach and passed per anum. Sometimes the black vomit occurs without the yellowness. Enlarged liver and spleen, and tender and tympanitic abdomen, are usual symptoms in cases characterized by yellowness or extreme congestion. A deep persistent purple colour of the face, appearing before or immediately after the invasion of the disease, is a certain prognostic of danger, and is seldom absent in those destined to be yellow. With the exception of the purple countenance, the symptoms which usher in the congestive form of the disease differ little from those attending the disorder in its milder degree. In the severe cases there is generally a remission, but no intermission, about the seventh day.

In Chap. III. the *Pathology of the Disease* is given. The author commences with detailing the positive and negative characters, which distinguish the present epidemic from the fever which generally prevails in Edinburgh, viz.

1. *The sudden and violent invasion of the disease.*
2. *Bronzing, leadening, or purpling of the countenance before and after seizure.*
3. *The almost uniform occurrence of one or more relapses.*
4. *The unusual number of cases with yellow skin, black vomit, and hæmorrhage.*
5. *The short duration of the pyrexial state, and its mode of termination.*
6. *The severe muscular and articular pain.*
7. *The absence of the rosy, elliptical eruption, resembling measles in the present epidemic.*
8. *Severe vomiting is much more common, as are likewise gastric, gastro-hepatic, gastro-splenic, and gastro-enteric symptoms.*

With respect to the sudden and violent invasion of the disease, the present epidemic resembles that which prevailed here in 1817-20, and which was described by Dr. Welsh. The bronzing, leadening, and purpling of the countenance bear a strong resemblance, according to medical men familiar with the remittents and intermittents of Canada, the West Indies, and Italy, to what they have seen in persons affected with them in those countries. This phenomenon forms an interesting point of re-

semblance between the yellow fever of hot countries and our present epidemic. The recurrence of relapses forms another striking character of this epidemic, and forms also a point of contrast between it and typhus, in which such a recurrence is rare, and may generally be traced to errors in diet, or some other indiscretion. In the epidemic of 1817-20, relapses were also observed.

Yellowness of the skin and eyes, which are observed in the present epidemic, are also noticed by Dr. Welsh in the fever of 1817-20. Yellowness and black vomit have generally been taken as characters of special disease. Remittent and continued fevers, when prevailing epidemically, have been described under the name of yellow fever, a term applied to fevers differing essentially from one another in their character, constitution, and mode of propagation. This indefinite and vague use of the term yellow fever, however, should be banished from the scientific nomenclature of disease, as yellow skin, and black vomit, black stools and urine, and hæmorrhages, are consequences of congestion, which is liable to occur in fevers of all types and countries. Dr. Christison, in his work on Continued Fever, in the Library of Medicine, mentions "disorder of the hepatic system, accompanied with jaundice," as "an important, though rare complication." He says, that "it occurs chiefly in the Autumn months, and principally in those epidemics where the inflammatory type is prevalent. Dr. Stokes and Dr. Graves describe some cases of yellow fever which they treated in the Meath Hospital of Dublin during the epidemic of 1827. On this occasion Dr. Graves made the remark that there is not so much difference between the diseases of Ireland and warmer countries as has been imagined; that they differ as to their degree, but not as to their pathology. Dr. Graves states, that in fifteen cases he could detect no difference in the symptoms which they presented, and those which characterize tropical yellow fevers. In both, he says, patients become yellow from absorption of bile into the system. Tenderness of the epigastrium and vomiting were present in both. The black vomit in the true yellow fever consists of a sanguineous fluid mixed with the vitiated secretion of the stomach and blood—this forms the coffee-grounds. According to the same authority, the seat of the disease is a violent inflammation of the mucous membrane of the stomach and duodenum. The last piece of pathology Dr. Cormack considers rather as an opinion than as an acknowledged fact; still the observation that the mucous membrane of this part of the intestinal canal was found dark purple, soft, and semi-fluid, Dr. C. considers valuable, as being the record of physical appearances actually seen. In the yellow cases of the fever now prevailing in Edinburgh, this same altered state of the gastro-intestinal mucous membrane is found; but there is no lymph effused—nothing, in fact, indicative of inflammation, unless in some severe cases which linger long.

Various modes have been offered to account for the yellowness of the skin in yellow fever. Some have ascribed it to general ecchymosis; and probably with justice in some instances; for Andral has shown that it is this which produces the saffron colour of the skin in what is improperly called the jaundice of new-born children. This explanation, however, can only apply to those cases in which the yellowness is partial, or limited to particular parts of the body. The fluid in the cavities, as in the present

epidemic, and the urine, have often a yellow tinge. Fordyce attributes the yellow skin to a redundant secretion of sebaceous matter. Dr. Cormack considers the most rational explanation to be, that it is the result either of an absorption of bile, or of its non-elimination from the blood.

With respect to *the short duration of the pyrexial state, and its mode of termination*, the author observes that the general occurrence of the crisis so early as the fifth day distinguishes this fever in a marked manner from typhus. The termination in the former is also much more commonly indicated by sweating, or other critical evacuation.

The severe muscular and articular pains in the disease, and during convalescence, form a rather interesting peculiarity of the present fever. The patients have acute rheumatic attacks, and occasionally acute pains in the feet, just like those which were affected with the epidemic of 1817-20. Dr. Cormack has found the arthritic and general pains in the jaundiced cases to be most severe; an observation worth recording, from the connexion which subsists between jaundice and rheumatism.

The absence of the rosy elliptical eruption resembling measles in almost every case in the present epidemic, constitutes one of the most remarkable distinctions between it and that which has been common in Edinburgh for a number of years past.

Severe vomiting is much more common, as are likewise gastric, gastro-hepatic, gastro-splenic, and gastro-enteric symptoms. Even in the mild cases, more or less of pain of the epigastrium and vomiting, are general symptoms. In the mild cases, the matters vomited are generally the ingesta tinged with green, of various degrees of intensity. In the most malignant of the yellow cases there is sometimes a fine inky sediment in the vomit; at other times, the grounds are grumous, varying in colour from dark brown to black. This grumous matter is no doubt blood extravasated from the capillaries of the stomach, and chemically altered by the action of the acids of the stomach on it. The *gastro-enteric symptoms* are, in general, obviously referrible to the congested and irritated state of the mucous membrane of the stomach and bowels. Much of the pain complained of in the bowels arises from gaseous distention. A few other of the most important points in the pathology of the disease are next noticed; such as, 1st, the state of the blood; 2d, the origin and mode of propagation; 3d, the structural lesions caused by the fever. That the blood is really in a dissolved state, is evident, 1st, from its imperfect coagulation when drawn from the veins of patients; 2d, from the ecchymosis universally observed to surround flea-bites or other slight injuries of the skin; 3d, from the frequent occurrence of purpurous spots; 4th, from the hæmorrhages; and 5th, from the discoveries made by the microscope.

With respect to the *origin* of the prevailing epidemic, Dr. Cormack thinks that facts are not wanting to render it probable that the disease has been imported. With respect to the mode of propagation, there is sufficient evidence of its being contagious, in the fact, that almost all the clerks and others exposed to the contagion have been attacked. Dr. Cormack is of opinion that the contagion of this fever is subject to the same law as that which regulates common typhus fever; viz. that the poison in which

it originates does not extend for more than three or four feet from the patient.

With respect to the *structural lesions caused by the fever*, they were found to consist in abundance or even excess of bile, and a pervious state of the biliary ducts, and more or less congestion of organs, with frequently extravasation of blood in various situations.

In the *Fourth Chapter* are detailed the principal Sequelæ of the Fever. These are thus summed up:—1. *Ophthalmitis usually preceded by amaurotic symptoms.* 2. *Glandular swellings.* 3. *Boils and cutaneous eruptions.* 4. *Effusion into the knee-joint.* 5. *Swelled legs and ankles.* 6. *Pain in the feet, with and without swelling.* 7. *Paralysis of the deltoid and other muscles.* 8. *Sloughing of parts.*

In the *Treatment* of this, as of every species of fever, the only general rule, which can be safely followed, is that so correctly laid down by Cullen and so urgently insisted upon by Dr. Allison, viz. "*to obviate the tendency to death*;" with respect to the present epidemic there are, according to Dr. Cormack, three states most apt, either separately or conjointly, to cause death, and which, therefore, ought to be anxiously looked for, and, if possible, promptly corrected. They are—

1st. Congestion of the mucous membrane of the stomach and intestines, terminating in effusion of blood and subsequent destruction of large portions of this tissue.

2d. Congestion of one or more of the abdominal viscera, particularly of the liver and kidneys, disabling them from the performance of their secretive functions and thereby rendering the blood impure.

3d. Debility and sinking.

The best means to prevent these evils are the cautious but steady use of purgatives, the determining of blood to the surface and extremities, and in some cases its abstraction. When the kidneys are not duly performing their functions, a small bleeding from the lumbar region by cupping, or even a dry cupping, in those in whom depletion would be hazardous, proves of great benefit. When there is debility and sinking, cordials must be administered; and, if this be combined with nausea or vomiting, they must be combined with sedatives.

With respect to the abstraction of blood, Dr. Cormack mentions that few of his patients bore the loss of more than ten ounces, and several became affected with vertigo and faintness, after two or three only had flowed. Some who, whilst the blood was flowing, declared themselves quite relieved from the headache, within half an hour after the arm was bound up were found to be suffering just as much as ever. He found that the most severe headaches were always far more effectually and uniformly relieved by the combined operation of a purgative, a pediluvium, and the constant application of cold to the head and the back of the neck. In several cases of pulmonary inflammation, Dr. Cormack found all the symptoms disappear under the use of antimony and morphia combined; or the liberal use of morphia and ipecacuan lozenges. These remedies, when used along with fomentations, sinapisms, or blisters, are safe, and generally efficient substitutes for local bleeding, in thoracic complications.

In a word, he conceives that the cerebral, pulmonary, and abdominal complications, in which it is proper to abstract blood, are extremely rare, and that in very many instances it is a most hazardous practice. In some of the more severe cases of abdominal pain, and extreme tenderness on pressure, the patients have been well brought through simply by the diligent use of copious warm poultices and fomentations. Enlarged and tender spleens have often done well with this simple treatment.

With respect to the application of cold to the surface, cold water to the head was, in general, found to be quite sufficient to allay the headache. In some instances, muriate of ammonia and other evaporating lotions were used. The aspersion of the arms and chest with cold water had the effect of calming several restless and irritable patients.

Medicines which act on the kidneys, when the urine was very scanty and scalding, and pain complained of in the loins, have proved serviceable —those used were the nitrate of potash, spirit of nitrous æther, and other diuretics. Warm fomentations to the loins, cupping, &c. act well in exciting the kidneys to renewed secretion, probably by preventing or moderating the congestion of these organs. Whenever alarming head-symptoms occurred, associated with suppression of urine, he always directed attention to the kidneys.

We must here close our analysis of Dr. Cormack's monograph, in which will be found many and valuable practical remarks.

THE FIFTH ANNUAL REPORT OF THE REGISTRAR-GENERAL OF BIRTHS, DEATHS, AND MARRIAGES IN ENGLAND. 8vo. pp. 324. London, 1843.

SINCE the first appearance of these Reports, we felt it our bounden duty earnestly to recommend their attentive perusal to the members of the medical profession. The vast fund of valuable and practical precepts contained in them, whilst they evince the great skill and high scientific attainments of the gentlemen engaged in this department, cannot fail to prove of incalculable benefit not merely to those to whom the prevention and treatment of disease are more immediately committed, but to the public generally. Every page of the Report satisfies us that a steady advance is making towards the attainment of a more perfect system of registration, and that the attention of the Registrar-General is intently directed to the best means of removing all difficulties. From the very first appearance of these Reports, an obvious improvement was perceptible in every succeeding volume. In none of these Reports, however, is this progressive improvement more decided or marked than in the present. It contains the Report of the Registrar-General, and the returns on which this Report is founded, the marriages, births, and deaths in four years—the present state of mortality, both over the whole country, and in different districts and different towns—the mortality at different ages—the mode of construction

of Life-Tables—the principles on which they are constructed—their uses and mode of application for various purposes.

To this is added an Appendix, containing Mr. Farr's Letter to the Registrar-General, with accompanying Papers and Tables. The first Paper commences with the Construction of Life-Tables, in which he employs the differential method. Then we have a Paper headed *Public Health*, containing details of the zymotic and sporadic diseases which prevailed during the year 1841, and an elaborate account of the deaths by different causes in the four years 1838–41. Then an Abstract of the Causes of Death registered in the year 1841 in the towns and the open country, with an elaborate detail of the causes of the high mortality in town districts. Next follows an account of the causes of the mortality at different periods of life, &c. &c. Having now presented a summary of the contents of this excellent volume, we proceed to our analysis of those contents.

The present volume commences with a General Abstract of the Births, Deaths, and Marriages registered in England, during the year 1841. In order to show the progress of registration, and the changing state of the population, the Births, Deaths, and Marriages of the preceding years are subjoined:

	1838.	1839.	1840.	1841.
Marriages		123,166	122,665	122,496
Births		492,574	502,303	512,158
Deaths . .	342,547	338,979	359,634	343,847

The Registrar-General seems determined to make the future series of his annual abstracts to terminate on December 31st, instead of June 30th as was heretofore done. The Marriages in 1841 were 1 in 130, the Births 1 in 31, the Deaths 1 in 46 of the population; the average of the two preceding years having been of Marriages 1 in 127, Births 1 in 31, Deaths 1 in 45. The Marriages diminished slightly in number every year; from 123,166, in 1839 to 122, 496 in 1841; from 1 in 126 in 1839 to 1 in 128 in 1840, and 1 in 130 in 1841. Thus in the three years 1625, 1597, 1574 males in 100,000 were married, or less by 51 in 1841 than in 1839; whilst in the same three years 1553, 1526, and 1504 women in 100,000 were married; or less by 49 in the year 1841 than in 1831. In several cases the fluctuation in the number of marriages was observed to coincide with the depression or prosperity of industry or trade, and indicates with considerable accuracy the view which the people took of their own circumstances, and the greater or less immediate facility for providing for the support of families. The great good sense displayed by the working classes in England with respect to marrying cannot be too much recommended. Would that the same prudence and the same caution were observed among the corresponding classes in Ireland, among whom marriages are contracted with such precipitancy, and such little thought respecting the means of supporting their young families, that but for the well-known and truly proverbial devotedness and affection of the poor Irish peasant for his offspring, one might be disposed to think that in the affair of matrimony the principle which guided these wretched people was, "*solamen miseris socios habuisse malorum.*"

The greatest number of marriages (36,542) occur in Autumn, and the

smallest number (25,174) in winter: the difference between these extremes is 11,368, and the four seasons stand in the following order:—

	Winter.	*Summer.*	*Spring.*	*Autumn.*
	January.	July,	April,	October,
	February,	August,	May,	November,
	March,	September,	June,	December,
Average (1839-41)	25,174	29,502	31,559	36,542.

"The marriages in winter (25,174) are to those in spring (31,559) very nearly as the marriages in summer (29,502) are to the marriages in autumn (36,542): and the marriages in winter are to those in summer, as the marriages in spring to the marriages in autumn." It will be at once evident that the latter of these proportions is included in the former, and directly inferrible from it by an *alternation* of ratios, and therefore need not have been stated. In fact its being stated involves a tautology. The marriages in the four quarters are thus in geometrical proportion nearly; whence the marriages in any three being given, the number of marriages in the other quarter can be deduced from them by the common rule of three within a few hundreds; or, as the terms are nearly in arithmetical proportion also, by adding two terms and subtracting the third. The regularity in the numbers registered in each of the three years indicates the operation of constant causes, or such as fluctuate only in the same way as those which adjust the proportion of marriages to the population. In order to distinguish the number of persons in the community who marry from the mere number of marriages, the Registrar-General had an abstract made of the number of widows and widowers re-married in the last half year of 1841. Of 65,498 women married, 5888, or 9 in 100, were widows; of the same number of men 8476, or 13 in 100, were widowers. The average annual number of marriages in the three years 1839, 1840, 1841, was 122,777; and it would follow that 106,975 men, and 111,765 women, or 218,740 persons marry every year.

The proportion of re-marriages is greatest in the metropolis, and in the North-Western, Western, and York divisions, where the mortality is highest.

There were married under the age of twenty-one 5362 men, and 16,285 women; the proportion of minors (4.38 per cent. of the men, and 13.29 per cent. of the women) is below the averages of preceding years.

Births.—In 1841, 512,158 births were registered; in 1840, 502,303; and in 1839, 492,574; this increase, therefore, was 9855 in 1840, and 9729 in 1839; or 19,584 in two years. If the births had increased at the same rate as the population, the increase would have been about 14,000 in the two years: the excess of 5584 over this number may, I think, be fairly ascribed to the greater efficiency of this branch of registration. The births registered were to the deaths in 1841 as 149 to 100, or as 3 to 2. This proportion falls very far short of the ascertained annual increase of the population in the ten years 1831–1841. The greatest number of births is registered in the winter quarter: the smallest in the summer.

Illegitimate Births.—From the Registers of Births it would appear that 1 in 16 of the children born in England is not born in wedlock. The

Registrar-General sees no grounds for supposing that less than 64 in 1000 English children are illegitimate. The proportion in France is 71 in 1000. In the Fourth Annual Report it was showed that the proportion of boys to girls born in England was 10,486 to 10,000—the proportion of boys has been ascertained by several to be greatest among legitimate children. In France, for instance, the boys are to the girls born as 106.4 to 100; but among illegitimate children the proportion is 104.4 to 100. The present return gives a result quite the reverse; of the legitimate births the boys are to the girls as 105.4 to 100; of illegitimate births the boys are as 108 to 100.

Deaths.—The deaths in the year ending June 30th, 1841, amounted to 355,655; in the year ending Dec. 31st, 1841, to 343,847; so that, although the two series of abstracts comprise the Winter and Spring quarters of 1841, the difference in the sums of the annual deaths is 11,808. On comparing the deaths in 1840 and 1841, there will be found a decrease of 15,787. The deaths were more numerous (99,069) in the Winter of 1841 than in the Winter of any preceding year, but in the Spring the decline commenced, which reduced the mortality in the following quarters below the mean mortality of the four years. Up to the year 1843 the deaths in the Summer quarter rose regularly from 72,791 to 80,822, in the Autumn from 80,833 to 89,630; the deaths in Winter, except in 1839, when they were below the average number. The deaths in the four winter quarters were 385,764, in the four Summer quarters 305,333; the deaths in the Springs 355,248, in the Autumns 338,622. With respect to the table, which is here given, and which shows the influence of the seasons very distinctly, before it is applied it requires correction for the different duration of the seasons, and for the increase of population. The four Winter quarters comprised 361 days, the Spring quarters 364 days, the Summers 368 days, and the Autumns 368 days; the population increased at the rate of 1.334 per cent. annually. If the quarters had contained the same number of days, and the population had been stationary, the deaths would have been nearly as follows:—

Four Winters ($365\frac{1}{4}$ days)	391,059	Quarterly averages ($91\frac{81}{100}$ days)			97,765
Four Springs „ „	356,565	„	„		89,141
Four Summers „ „	302,827	„	„		75,707
Four Autumns „ „	334,556	„	„		83,639
Mean . . .	346,252	Mean . . .			86,563

By observing the great excess of deaths in Winter in the above summary, the fatal effects of cold are seen in a striking light. The average corrected number of deaths in the seasons would be—

Winter.	*Spring.*	*Summer.*	*Autumn.*
97,765	89,141	75,707	83,639

By transposing the Autumn and Summer terms, the law is discovered, which has regulated the mortality of the seasons, thus—

Winter.		*Spring.*		*Autumn.*		*Summer.*
97,765	:	89,141	: :	83,639	:	75,707
Differences 8,624		5,502		7,932		

The terms are in proportion; the product of the two extremes being nearly equal to the products of the means, or the deaths in Winter are to the deaths in Spring, as the deaths in Autumn to those in Summer. The proportion is perceived when no correction has been made in the quarterly deaths registered.

	Winter.		*Spring.*		*Autumn.*		*Summer.*
	96,441	:	88,812	: :	84,666	:	76,333
Differences .	7.629		4,146		8,333		

Admitting that this law should continue to prevail, as the proportion is also nearly arithmetical, a very close approximation to the average number of deaths in the whole year may be deduced either from the deaths registered in Spring and Autumn, or in Summer and Winter; thus the average annual deaths in the four years, 1838—41, was 346,252; the deaths in Spring and Autumn were 173,478; and twice that number gives 346,956, only 704 above the yearly average; while the deaths in Winter and Summer, multiplied by 2, give 345,548, or 704 below the annual average.

To exhibit the order in which marriages, births, and deaths take place more evidently, the Registrar-General annexes a summary view of the series of facts, which appear to be governed by the influence of the seasons according to the same law of proportion.

Relative number (corrected for inequality of time) of marriages, births, and deaths, in the seasons of the year—

	Autumn.	*Spring.*	*Summer.*	*Winter.*
Marriages, .	36,306	31,355	29,634	25,482
	Winter.	*Spring.*	*Autumn.*	*Summer.*
Births, .	131,257	129,677	121,053	120,356
	Winter.	*Spring.*	*Autumn.*	*Summer.*
Deaths. .	97,765	89,141	83,639	75,707

Corresponding numbers in geometrical proportion—

	Autumn.		*Spring.*		*Summer.*		*Winter.*
Marriages,	36,306	:	31,355	: :	29,570	:	25,537
	Winter.		*Spring.*		*Autumn.*		*Summer.*
Births, .	131,257	:	129,677	: :	121,437	:	119,975
	Winter.		*Spring.*		*Autumn.*		*Summer.*
Deaths, .	97,765	:	89,141	: :	83,335	:	75,983

The seasons have most influence on the number of marriages; least on the number of births. If 100 be taken to represent the lowest average number registered in a quarter, the births rise to 108, the marriages to 142, the deaths to 129. According to the abstracts down to the present time, the births and deaths are most numerous in Winter, marriages in Autumn; whilst the smallest number of births and deaths occur in Summer, of marriages in Winter. It is a matter which has been frequently observed, that the marriages and births are most numerous where the mortality is highest.

We are very desirous of presenting to our readers an account of the construction and uses of *Life-Tables*, as they are called, into the nature and method of which the Registrar-General has entered very fully. Fearing, however, that such details would be rather foreign to the pages of a Journal, whose duty and character it is to be practical, we shall content ourselves with stating some of the more prominent applications of these tables. A Life-Table shows, out of a given number born alive, the numbers living at every year of age, for 100 or 105 years. The assumed number born alive, technically called the *base* or *radix* of the table, is arbitrary; and the age at which the table terminates varies in different tables. The yearly deaths are called the "*decrements of life*." In the Life-Table given in this volume it is assumed that 100,000 form the *basis*; from the proportion of the two sexes registered, it will be found that 51,274 of them were boys, 48,726 girls. In order to facilitate the understanding of the principle, we will further assume that the 100,000 were all born on the same day—the 1st of Jan. 1841; and that the survivors, counted on the first day of 1842, 1843, and of every year for the next 100 years, will exist in the numbers against the respective ages of the annexed table. Now, on inspecting the table, it will be seen that out of the 100,000 children born on Jan. 1st, 1841, only 85,369 were alive on Jan. 1, 1842; so that 14,631 perished in the first year. Jan. 1, 1813, the survivors were two years old, and in number 80,102; so that 5,267 died in the second year. Jan. 1, 1846, the 5th year of age will be attained, and there will be 74,201 living. So that in the first five years 25,799, of the 100,000 children born, die. During the next five years, the mortality becomes less considerable; and from 10 to 15 the loss of life remains small—68,627 will live to the age of 15. At this age the loss of life among girls is greater than among boys, and it continues so for the next five years. The mortality appears to increase rather rapidly from 12 to 15; and then at a slow regular rate from 15 to 55 years; 66,059 attain the age of 20. It was observed that 51,274 boys were born alive to 48,726 girls; but the mortality in infancy is greater among boys than girls; so that 31,956 males attain the age of 25, and 31,623 females attain the age of 24. This is about the average age of marriage in England; and the number of the two sexes is then nearly equal. About four-fifths of the males who attain the age of manhood marry; the proportion of women who marry being the same. Of the 100,000 persons born, 50,301 attain the age of 45, viz. 25,311 men, and 24,990 women. The chance of living from 25 to 45 is rather in favour of English women. The various hardships, perils, and annoyances to which men are exposed counterbalance the dangers of child-bearing. At the age of 55 a more rapid rate of mortality will set in, and more than a thousand die every year; yet 37,996 will be alive at the age of 60, and 24,531 attain the age of 70—11,823 men, and 12,708 women—the mortality of women being less than that of men after 55:—by the various causes of wear and tear, and more than all, by the natural falling off of vitality, at the age of 80 the numbers will be reduced to 9,398. After the age of 80 the observations grow uncertain; but if we admit their accuracy, 1,140 will attain the age of 90; 16 that of 100; and of the 100,000, one man and one woman—like the lingering barks of an innumerable convoy—will

reach their distant haven in 105 years, and die in 1945. The nature of this calculation may be readily understood. It may have been ascertained that of 100,000 children born in Jan. 1841, 80,102 were alive in Jan. 1843; but we could not, of course, if so disposed, know by *direct means* how many will live through the year, and see 1844; it was, however, ascertained at the census that there were 437,276 children living in 1841 of the age of 2 and under 3 years; the deaths of 15,027 children of the same age were registered. Hence as 15,027 died to 437,276 living, it is a mere matter of numbers to determine how many die and how many survive a year out of 80,102 children exactly two years old. According to the Table, 2,710 die out of 80,102, and 77,392 attain the third birth-day, and will be alive Jan. 1, 1844.

The mortality at certain intervals of age can always be determined from a comparison of the numbers living with the deaths; and from the ascertained mortality the annual survivors can be calculated. Thus in 1841 it was found that 6,633 men died at the age of 20—25 out of 724,013 living; the mean age of those persons may be taken to be 22½ years; we know the mortality, therefore, at that age, and can tell how many of a given number, say 32,792, aged 22, will live a year—how many of the 100,000 alive on Jan. 1, 1863, will be alive on Jan. 1, 1864.

The Life-Table, in its present form, as given in the volume now under consideration, possesses several remarkable properties. It shows the *probability or chance of living a year or any number of years at any age.* Thus 100,000 forming the *base* or *radix*, and 85,369 being the number living to the end of the first year, at birth the chance of living a year is .85,369, the chance of dying .14,631; for there are 100,000 chances, and 85,369 in favour of living. At the age of 40, the chance of living a year is $\frac{53,134}{53,825}$; for, according to the Table, the number who die in the next year is 691, and the number who survive is 53,134; so it is 53,134 to 691, that a person aged 40 will live a year. At 60 the chance of living a year is $\frac{36,874}{37,996}$; the denominator of the fraction (37,996) expressing the total number of chances, and the numerator (36,874) the chances in favour of living. The chance of dying is $\frac{1,122}{37,996}$, and the two fractions added together $\frac{36,874 + 1,122}{37,996} = \frac{37,996}{37,996} = 1$: unity being in the arithmetic of probabilities the symbol of certainty, the certainty that the person will die or live, is thus expressed.

By inspecting this Table we may readily see the probable duration of life; it is in fact the time in which the number born is reduced one-half; in the English Life-Table this will be found to be 45½ years; that is, it is probable that a child will live to 45½ years: for, by looking at the Table, it will be seen that the 100,000 are reduced to 50,301—nearly half their number—by the age 45; there is, therefore, nearly an equal number of

chances (50,000) in favour of living to, and of dying before the age 45½. The *probable* life of a boy is 44, of a girl 47 years. Suppose we wish to ascertain how long it is probable that a woman aged 25 will live. On inspecting the table, we see that the survivors out of the 100,000, who have attained their 25th year, are 31,337; the half of this is 15,668, the number surviving at the age of 66; it is *probable*, therefore, that the woman will live to the age of 66, that is, that she will live for 41 years after her 25th year. Again, suppose we wish to ascertain the age of a man at the age of 60. By inspecting the table we see that the number of survivors at this age, is 18,808; now the half of this is 9,404, to which the 18,808 are seen in the table to be reduced at the age of 73; at 60, therefore, it is *probable* that a man will yet live 13 years.

Several uses may be made of the Life-Table. It may be readily converted into a population table, showing the total numbers living, and the numbers living at every age. The uses of the Life-Table in determining the value of life annuities, leases, livings, pensions, &c. are well known. We are almost tempted to present to our readers one or two instances of the method of employing it in such cases, but we apprehend it may lead us from our more legitimate department.

By adding up the column of "LIVING," as given in the English Life-Table now under consideration, the sum of the numbers will be found to amount to 4,165,890; subtract half 100,000 from this, and 4,115,890, the number of the years which the 100,000 persons live, will be obtained. Divide the years of life, 4,115,890, by 100,000, and the quotient, 41.16, will be the mean age, or, as it is sometimes called, the *expectation of life*; for males it is 40 years, females 42, and for both sexes 41 years. By repeating the process, the expectation of life at each year of age is obtained; at five years, it is 50 years; at ten 47; at twenty 40; at thirty 34; at forty 27; at fifty 21; at sixty 14, &c. &c. The average age at which persons aged 30 will die, is 64 years, and 74 is the average age at which sexagenarians will die.

It is observed, that one of the most remarkable points in the comparisons of the expectation of life at different times, in different nations, and various climates, is their singular uniformity. This uniformity does not imply that the external circumstances in which men live have no influence on the duration of life; it only tends to prove that life being regulated by constant laws, the circumstances, adverse or favourable to existence produced, by compensations of various kinds, the same results. The mortality of England varies from year to year; and the mortality of 1841 was rather lower than in previous years; so this table is only given as an approximation to a mean table. We shall now proceed to consider the contents of Mr. Farr's three papers on subjects connected with the Abstracts in the Registrar-General's Annual Report. The first of these papers treats of the construction of Life-Tables. The second presents a general view of the fatal diseases of the year 1841. The third, in continuation of previous papers, is devoted to the examination of the diseases of towns, and their causes. As we have already allotted a considerable portion of space to the subject of Life-Tables, we shall pass on to the second of Mr. Farr's papers, concerning the *Public Health*. The number of deaths registered in the year 1841 was 343,847, less by 15,714 than

359,561, the number registered in 1840. The mortality was .001.289 less in 1841 than in the previous year. In 1840, out of a million living, 22,878 persons died; in 1841, out of the same number living, 21,589 died. Of the decrease, 897 in the 1,289 was in the *zymotic* class of diseases. The idea attached to the term *zymotic*, Mr. Farr has already explained in his Appendix to the Fourth Report, where he states that he considers a designation like this, as more convenient than the periphrasis "epidemic, endemic, and contagious diseases." It is a property of zymotic diseases to prevail more at one time than at another; to become epidemic or endemic, or contagious in certain circumstances. The epidemic character of the diseases of this class has been exemplified very remarkably by scarlatina, which raged with increasing severity until 1840, and continued the prevailing epidemic of 1841, though it had begun to decline: 14,161 persons, principally children, died of scarlatina in 1841; and 19,816 had died by this malignant malady in 1840. Measles had been epidemic and destroyed 10,935 lives in 1839; the deaths from measles in 1841 were 6,894. Small-pox was fatal to 16,268 persons in 1838, to 9,131 in 1839; to 10,434 in 1840; and to only 6,368 in 1841. It was less fatal in 1841 than either measles, scarlatina, or hooping-cough. This happy result is probably to be ascribed, in a great part, to the Vaccination Act, which came into operation in 1840; and may be expected, by extending the application of Jenner's great discovery, to effect a still further reduction in the sufferings, deformity, and mortality dependent on small-pox.

The deaths of 48,053 persons were ascribed to diseases of uncertain or variable seat. Many of the cases of "hæmorrhage," returned "rupture of a blood-vessel," &c. belong to phthisis, to which head hæmoptysis, or spitting of blood, was referred. Diseases of the respiratory organs were fatal to 92,183 persons in 1841; the mortality which they occasioned was nearly six in 1,000; it was 5,911 in a million, or 132 less than in 1840, when 6,043 in a million died of pulmonary affections. Of the decrease of 132 to a million, 54 was in pneumonia, and 75 in phthisis. The mortality by these two diseases remained, nevertheless, excessively high: thus—

	1840.	1841.
Total deaths by Pneumonia	18,582	17,997
" deaths to a million living	1,209	1,154

	1840.	1841.
Total deaths by *Phthisis*	59,923	59,592
" deaths to a million living	3,897	3,822

The progressive increase in the number of cases registered as heart disease, from 3,319 to 4,246, may be ascribed to the diffusion of new methods of diagnosis, as well as to improvements in the character of the registration,

The deaths by diseases of the digestive organs were 22,398. The mortality was 1,436 in a million, or 29 less than in the previous year.

DEATHS BY CHILDBIRTH.

In 1841, 3,007 mothers died in childbirth. On an average, 8 died from

childbirth every day of the year. The mortality was one death to 171 births registered.

We entirely concur in Mr. Farr's remarks on the serious advantages which must result from the establishment of schools for the education of nurses and midwives in the metropolis and large towns. By such means a highly useful profession would be thrown open to women; and the utility to the community of a recognized body of respectable women, educated as nurses, acquainted with the plain doctrines laid down in the popular medical works on health, and possessing as much knowledge of midwifery as the French *sage-femme*, would be incalculable. Some of these schools, he thinks, might be connected with the present hospitals and lying-in institutions; others might be founded for the delivery of easy popular lectures, and for providing the wives of the indigent with gratuitous attendance, or attendance slightly remunerated—to be supplied by the young nurses, superintended by those practically versed in their art, and by medical officers. In a year or two years, intelligent women would acquire, at such an institution, sufficient information and skill to be useful nurses. He thinks it questionable, however, whether they should be taught the properties of drugs. He thinks it would be quite enough if they were taught in what circumstances to give a few drops of laudanum after delivery, and when to administer castor oil, or tincture of rhubarb, themselves, or in what way to apply the remedies prescribed by physicians or surgeons. To do more, would be to establish a new class of half-educated practitioners, like the druggists, and would infallibly lead to mischief, without any chance or prospect of countervailing good. The suggestions thrown out by Mr. Farr, in this part of his paper, are truly valuable, and well deserving the attentive consideration of the community at large. After having consulted several medical men in extensive practice, he states, that the want of good educated, trustworthy nurses, is felt in the highest circles, as well as in the middle ranks of society. He conceives that an institution for the education of nurses would probably succeed better than many of the medical schools; but they would be nurses for the middle and higher classes; the small outlay of capital which an education of the kind would involve, must tend very much to preclude the admission of midwives for the poor labourer's or the artisan's wife. For the many collateral advantages that would result to society from the possession of well-educated nurses, we must refer to the original paper.

The next most important subject discussed in Mr. Farr's paper, is the *Causes of the High Mortality in the Town Districts.*

The population, in 1841, of the districts in the counties of Essex, Norfolk, (except Norwich) Suffolk, &c. &c. an area of about 9,352 square miles, was 1,700,484. The deaths registered in the 4 years (1838-41) were 132,116.

The population of Birmingham, Aston, Bristol, Clifton, and several other towns, standing on 666 square miles, was 1,883,693, and the deaths registered in the 4 years were 2[illegible]5,966. The population of the town was greater than that of the country districts by 183,209; as a correction for this excess, strike off 20,000 from the deaths in the former districts, and the excess of the deaths in the town districts will be found to be 53,850.

For another comparison, the Metropolis, inhabited in 1841 by 1,875,493 persons, was compared with the South Western Division, comprising in Wiltshire, Dorsetshire, Devonshire, Cornwall, Somersetshire, a population of 1,740,017. The deaths were 189,927 in the Metropolis, 130,298 in the South Western Division, and after the same kind of correction as above, the result is of the same character.

The essential character, by which Mr. Farr was guided in classifying districts under the head of "town" or "country," is the density of the population, which can be expressed numerically by the "population to a given area," or the "area to each person." After having obtained from an immense number of facts the undeniable result, that certain diseases are much more fatal, and that the mortality is much greater, in towns than in the open country, Mr. Farr proceeds to inquire into the causes of the diseases, which the registration has proved to be so much more fatal in the town than in the country districts. To distinguish those causes, and to determine precisely the share which they have, single or combined, in the production of disease, it becomes necessary to institute an elaborate series of observations and experiments, in which the resources of chemistry, natural philosophy, medicine, and the mathematical sciences, must be called into requisition. Our present information does something more than prove the necessity of further inquiry; it enables us to trace the disease of towns to groups of causes, and to analyze them partially. And first with respect to the necessaries of life, a deficiency of which may stand as one of the causes of diseases in towns; these being the produce of labour, and of variable value, a portion of every population, savage or civilized, is unable to procure them, and is subject to privation in different degrees. These necessaries are, 1, Drink; 2, Food (animal and vegetable); 3, Physic; 4, Clothing; 5, Firing; 6, Lodging; 7, Cleansing. The relative value of these articles is represented by their price, which varies at different times and places; this price, however, it is evident, does not express the relative facility of procuring them; such facility being expressed by the ratio of the earnings of a family to the cost of its subsistence. Now when in any case this ratio is one of equality, there is what may be called a competency. This may be expressed by the value of the above-mentioned ratio. Let us suppose that a sufficient supply of necessaries can be procured by a family for £100. per annum; what would be the effect of reducing the earnings to £50.? Experience proves to us, that the duration of life is not diminished in that ratio, for this reason, that by substituting a cheaper food the body may be sufficiently nourished. A low standard of subsistence, however, might be fixed on, any fall below which would be accompanied by a certain reduction of the mean life of the people. The ratio may be conceived under this simple form—

$$\frac{\text{Income}}{\text{Drink}+\text{food}+\text{physic}+\text{clothing}+\text{firing}+\text{lodging}+\text{cleansing}} = r;$$

and putting N for income, (in money,) C for the aggregate cost (in money) of the seven necessaries, and L for the mean physiological duration of life, the equation is $\frac{N}{C}L = L'$; L' being the mean life in the particular cir-

cumstances. Suppose the cost of a full supply of subsistence for a labourer in the country to be £50. a year, and that the income of his family is £50. and that he is in such favourable circumstances altogether that he attains the natural mean term of life, the equation will be $\frac{50}{50}L=L$. But let the income be reduced to £40. and if the ratio be simple the equation will be $\frac{40}{50}L=\frac{4}{5}L$. So that, if the mean natural life =56 years, it would be reduced to $\frac{4}{5}56$, or 45 years, which is the present mean life in the best country districts. So that, by having several series of observations on the incomes of the labouring population in town and country, in different circumstances, together with the cost of the necessaries of life, we might determine the effect on the mean life of the people. It is hoped that such observations will be made. There are circumstances, however, which must prevent us from admitting that the command over the necessaries of life is in favour of the country population.

Another class of causes which may be supposed to affect the mean duration of life consists of atmospheric impurities, organic matter undergoing decomposition, and the contagious principles of zymotic diseases. The most minute investigation has established the fact, that the excessive mortality in towns is scarcely in any degree to be ascribed to the accumulation of carbonic acid gas, or any other gases, so complete is the provision made for their dispersion. The next consideration is, whether it is to matters suspended in the atmosphere of cities that the excessive mortality must be referred. Smoke is heated gas, carrying with it unburnt particles in suspension; the carbonic acid is scattered immediately by its diffusive velocity, and the particles of solid matter, carried up by the heated air into the sky, disperse, become invisible, and fall around insensibly, in a clear atmosphere, or at a distance when there is any wind. That the smoke is irritating to the air passages, injurious to the health, and one of the causes of death, to which the inhabitants of towns are more exposed than the inhabitants of the country, is exceedingly probable; but, if the effect were very considerable, it would be most evident in the dense fogs, when the atmosphere is loaded with smoke, and breathed for several consecutive hours by the population—men, women, and children. Now no connexion has ever been observed between the increase of the mortality and the London fogs. The diseases, again, caused by smoke, must be of a mechanical nature, and affect the lungs and air passages; it may increase the pulmonary diseases, but will assuredly not produce scarlatina, measles, typhus, and other diseases which prevail in towns. There is still another class of agents. Suppose in a school-room there are 100 children; a child is introduced for a few hours, in a state of scarlatina. The children have not had the disease before; 10 of them are affected. If ten children with scarlatina were introduced, and the room were ill-ventilated, 30 or 40 of the children might be affected. The same may be said of other contagious diseases, as small-pox, measles, hooping-cough, dysentery, &c. &c. The numbers attacked by an infectious disease depend upon—1st. the susceptibility of the persons exposed; 2dly, on the strength of the zymotic matter, which varies in the stages and forms of the several diseases; and 3dly, on the density of the air in the room, and on the ventilation in it. If 100 healthy were placed in a room in immediate contact with 10

sick persons, if the room were small, the doors and windows closed, the greatest number possible would be infected; and if they went through the disease in the same circumstances, the mortality would also be the greatest possible. Thus, in consequence of the various public buildings in which crowds of persons assemble not being provided with the proper mechanical means of ventilation, and the air not being withdrawn, the very walls reek with the breathed atmosphere; and if any epidemic, such as influenza, be rife, several persons affected with the complaint are present, and great numbers are infected; the headache and oppression which come on are the first and often not the last symptoms. This is literally "taking poison;" though generally called "taking cold." It is a vulgar error to suppose that rooms are healthy when they are not hot; but the heat which is generated may increase the effect of the zymotic matter. Certain substances, then, taken from the bodies of the sick, produce, when introduced into other bodies, a series of specific phenomena, developed according to a determined type. *Varioline*, for instance, produces small-pox. These substances act as ferments.

The 267 feet of air passing through the lungs daily, if charged with these particles, will bring them into contact with the blood. With respect to the physical properties and chemical nature of these morbific particles, Professor Graham's hypothesis is, that they are highly organized particles of fixed matter, which may find its way into the atmosphere, notwithstanding, like the pollen of flowers, and remain for a time suspended in it; a condition which is consistent with the admitted difficulty of reaching and destroying those bodies by gaseous chlorine, and with the washing of walls and floors as an ordinary disinfecting practice.

It is certain that animal matter is exhaled from the lungs and cutaneous surface. The particles are small and rare, but inelastic, devoid of the diffusive force of gases and vapours. These particles, so held in suspension and inelastic, stagnate in air, and can only fall to the ground, or be carried away with the fluid in which they float. Smoke and organic matters are removed from a room in this way—by replacing all its gaseous contents. Every population throws off insensibly an atmosphere of organic matter, excessively rare in country and town, but less rare in dense than in open districts; and this atmosphere hangs over cities like a light cloud, slowly spreading—driven about—falling—dispersed by the winds—washed down by showers. This is matter which *has lived*, is now dead, has left the body, and is undergoing by oxydation decomposition into simpler than organic elements. The exhalations from sewers, churchyards, vaults, slaughter-houses, cess pools, commingle in this atmosphere, as polluted waters enter the Thames; and, notwithstanding the great provisions of Nature for the speedy oxidation of organic matter in water and air, accumulate, and the density of the poison (for in the transition of decay it is a poison) is sufficient to impress its destructive action on the living—to receive and impart the processes of zymotic principles—to connect by a subtle, sickly, deadly medium, the people agglomerated in narrow streets and courts, down which the wind does not blow, and on which the sun seldom shines. A small quantity only of organic matter can escape with the carbon and aqueous vapour from the skin and lungs (37½ ounces daily, according to Dalton.) Liebig, by operating on large masses of air, has

obtained ammonia, which is a product of the putrefaction of animal matter. So that the existence in the atmosphere of organic matter is incontestable; and as it must be most dense in the densest districts, where it is produced in greatest quantities, and the facilities for its decomposition and removal are least, its effects—disease and death—will be most evident in towns. To this cause it is that Mr. Farr ascribes the mortality of towns, the people living in an atmosphere charged with decomposing matter, of vegetable and animal origin. He next proceeds to prove, not only that the mortality is greater in the town than in the country districts, but that the mortality of town districts has a certain relation to their density. The relation exists strictly between the density of the organic particles suspended in the atmosphere and the mortality; the density, however, of the matter in the air cannot be determined directly; and with the same number of persons on a square mile, the number of particles in the atmosphere will vary in different districts, according as the means of removing the refuse matter, by sewerage and other means, are more or less efficient. It is evident that, from the occupations of men in towns being mostly carried on in-doors, and in crowded workshops, while the agricultural labourer spends the greater part of the day in the open air, that the artisan in-doors is not placed in the same favourable circumstances as the labourer; the sun and wind carry off the breath as soon as it is formed, while in the workshops of towns the men are shut in from the sun, and no streams of air carry off the steaming breath and perspiration; hence the mortality of working men in the Metropolis is much greater than the mortality of women at the corresponding ages—no such great discrepancy existing in the country districts. Thus, in estimating the effects of density of population in districts, Mr. Farr takes examples from the observations on females, in order to simplify the inquiry. The Metropolis presents the most favourable opportunity for investigating the influence of density; it is an aggregate of masses of people in districts larger, more homogeneous, and more on an equality in respect to subsistence, than could be found elsewhere; the difference between district and district is very great; but yet districts may be selected resembling each other on an average in all other points, save density.

For the purpose of comparison, he selects three of the statistical districts of the metropolis in which the mortality is highest—Whitechapel, Shoreditch, and Bethnal Green. These resemble each other in a great many particulars; but the density is different, and the mortality is greatest in the densest districts.

DISTRICTS.	Annual Mortality of Females (*m.*)	Population to a Square Mile (*d.*)
Whitechapel	.02978	127,313
Shoreditch	.02790	86,123
Bethnal Green . .	.02617	62,390

The mortality here taken was for the four years, 1838—41.

By mere inspection of this table it is evident that where the density is greatest the mortality is also greatest—now the density of population in Whitechapel is as great and half as great again as it is in Shoreditch; that is, the density of population in Whitechapel, is to the density in Shoreditch nearly as three to two. The mortality, however, of these two districts is not in this ratio—representing the density of the densest district (Whitechapel) by d^1, that of the less dense (Shoreditch) by d; the mortality of the densest district (Whitechapel) by m^1, and that of Shoreditch by m, the proportion does not hold :—

$$m^1 : m :: d^1 : d.$$

On reducing the terms to the form of an equation, it will be seen that the mortality increased as the sixth roots of the densities: for $\frac{m^1}{m} = \sqrt[6]{\frac{d^1}{d}}$

and consequently $m^1 : m :: \sqrt[6]{d^1} : \sqrt[6]{d}$.

To facilitate the understanding of this, to those not versed in the language of algebra—let us suppose the density of Whitechapel (d^1) to be expressed by the number 15,625; that of Shoreditch, by the number 729; the mortality of one district will not be to that of the other as 15,625* to 729; but as the sixth root of 15,625=5, to the sixth root of 729=3; that is as 5 : 3.

From the above equation we have the formula $m^1 = \sqrt[6]{\frac{d^1}{d}} - m$, that is, we have the mortality of Whitechapel expressed in terms of the mortality of Shoreditch, and the densities of Shoreditch and Whitechapel. By substituting the numbers expressing the mortality of Whitechapel, and the densities of Whitechapel and Bethnal Green in the formula, we obtain the equation $\sqrt[6]{\frac{62,390}{127,313}} + .02978 = .0264$ for the mortality of Bethnal Green, which almost entirely coincides with that mortality, as ascertained by direct observation, which is .0262.

To ascertain whether the mortality bears the same ratio, the density in the wealthiest districts of the metropolis, Mr. Farr selects the following districts; *scil.* St. James's, City of London, and St. George, Hanover Square.

DISTRICTS.	Annual Mortality of Females (*m.*)	Density of Population.
St. James's	.02145	145,059
City of London . .	.01968	94,488
St. George, Hanover Square	.01707	39,018

* These numbers, 15,625 and 729, have been selected as being the even sixth powers of the simple numbers 5 and 3.—*Rev.*

Now given the mortality of St. James's district = .02145 : the density of population 145,059 ; the density of St. George's 39,018, to determine the mortality of St. George's.

Here we again employ the former formula, *scil.* $m = \sqrt[d]{\frac{d^1}{d}} m^1$—and substituting the figures for the corresponding algebraic characters, we have $\sqrt[6]{\frac{39,018}{145,059}} + .02145 = .0172$, the computed mortality of St. George, which nearly coincides with that ascertained by direct observation, *scil.* .01707.

By the same formula the density of a district may be obtained.

Thus, then, it is proved beyond a doubt, that if the population be the same in other respects, an increase of density implies an increase of mortality ; and that the ratio of increase is as certain roots of the density. When a more extended inquiry has confirmed this principle, *scil.* that the ratio of mortality is as the sixth roots of the densities, it will be time to ask why this should be the particular ratio. But the chemists must first discover the means of determining the density of the *zymotic atmosphere*, in different districts ; for the density of the population is no strict measure of the density of this zymotic atmosphere ; nor, admitting that the matter is a poison, does the relative density of the population express the relative doses inhaled in a given time ; if it did, it is improbable and contrary to all analogy that the mortality should increase in the simple ratio of the dose. The exact effect of increasing doses of poison, has not been accurately determined ; but it is well known that small doses of all poisons are taken with impunity, and that the dose of arsenic, opium or prussic acid may be increased up to a given point, at which the disease produced is severe or fatal. Four drops of prussic acid diluted, may be taken with safety, when four drops more would be fatal to a certain number of persons. How small the dose of matter may be which will produce a zymotic disease, it is impossible to say ; but if a minute diluted charge of *vaccinine* (vaccine lymph) produce cow-pox, say one time in 1,000, it would be an interesting problem to determine, by doubling the quantity, in what ratio the proportions infected increased.

Mr. Farr having shown, by a multitude of facts, contained in this paper, as also by accompanying tables, the necessity of changing the atmosphere of towns, as rapidly as possible, and of diluting it to the greatest possible extent, next offers some valuable suggestions with respect to the diminution of the quantity of animal and vegetable matter thrown into the atmosphere of towns. This matter is derived from several sources ;—the halitus of men and animals, the soil of water-closets, burial-grounds, slaughter-houses, sewers, and streets. The *halitus* cannot be diminished in quantity, but the isolation of families in separate houses tends to prevent its accumulation. For valuable and excellent remarks on the danger of assembling large numbers of sick into the same buildings, as in the instance of large hospitals, we must refer to Mr. Farr's paper. It is well known that when hospitals are crowded, the increase of mortality soon becomes striking—the mortality in the large metropolitan hospitals is

twice as great as in the small country hospitals. The patient is fortunate who escapes phlebitis or purulent deposits, after any serious operation in a hospital. Mr. Farr observes, further, that the space allotted for the sleeping-rooms of many public institutions in towns is too small. It should be in no case less than eight feet cube (= 512 cubic feet) to each person, with proper apertures for the removal of the breath. The influence of a too limited space, if carefully investigated, would no doubt show a certain inverse relation between the mortality and the space, a death marking every degree of concentration of the expired atmosphere. From the extent to which we find we have carried our analysis of this Report, we must now conclude, earnestly recommending its attentive perusal to the medical profession. It abounds in suggestions and advice of the most valuable and practical kind—and reflects the highest credit on the judgment and great scientific attainments of the gentleman engaged in drawing it up.

On the Nature and Treatment of Tic Douloureux, Sciatica, and other Neuralgic Disorders. By *Henry Hunt*, M.D. pp. 190. London, 1844.

There was a period when books were few in number, and he who gave one to the world might justly be termed a benefactor to his species. Their multiplication has now become a serious evil, and few are the authors entitled to national gratitude. This superabundance has generated the office of the Reviewer, an office we hold, although, humbly be it spoken, if executed with a due sense of its responsibilities, of considerable importance to both authors and readers, indicating much that is valuable in the productions of the former, which else might never have been perceived by the latter, by reason of the physical impossibility of perusing all that has been written upon the subject, and the want of that discriminating tact which long practice can alone confer. An author entering the Court of Criticism must be looked upon, we do not say as a delinquent, but certainly as on his trial, charged with having written a book, and thereby of having increased the number already too considerable. It is for him to prove that such book supplies a want hitherto unprovided for, enounces a fact unnoticed, or recalls attention to matters from which it should never have been diverted; and the exculpatory character of most prefaces proves that their writers are aware of this being their position. Medical readers have an especial claim that the precise object the writer has in view, and the degree of its attainment, shall be inquired into, seeing that, compared to other classes, their means of purchasing, and time for perusing books, are both limited, while the temptation to acquire reputation by ministering to the ignorance and credulity of the public are very great.

These observations, however, are not very appropriate upon the present occasion, as Dr. Hunt assigns good reasons for publishing, namely, the having had numerous opportunities of witnessing the diseases upon which

he writes, and his desire to place their treatment upon a less empirical basis.

"Having practised for many years in the South of Devon, the climate of which is proverbial for being warm, humid, and relaxing, and peculiarly calculated to produce the kind of habit most favourable for the development of these nervous diseases, which depend on weakness and relaxation, I had frequent opportunities of seeing and studying those diseases.

"My attention was early directed to tic douloureux, and after witnessing many cases, carefully tracing their origin, and comparing the various symptoms by which they were accompanied, I was led to conclude that this peculiarly painful malady had its rise in different individuals from different causes, and in very opposite conditions of the system; a conclusion that satisfactorily explained why a remedy which had been successful in some cases had completely failed in others.

"This has induced me to select several cases, in which I have been able to trace the pain to its source. These I have arranged under several heads, according to their respective causes: to each I have appended a few observations, and the means I have found most efficacious in their treatment."

He justly criticizes a very different plan, which is usually adopted by writers upon this subject, that is, the blazoning forth of some particular remedy as if it were a specific for the malady, no matter whence it arise, and its administration in such heroic doses as frequently to prove the means of aggravating rather than alleviating the original disease. Some of the most powerful articles of the materia medica have in this way been tried and found wanting, and that often from the injudicious mode of proceeding of the exhibitor, rather than from their own want of efficacy in properly selected cases. Many a medicine has been robbed of its just pretension to utility, and has sank into unmerited oblivion, to be revived sometimes under better auspices.

But the most scientific physician cannot always dispense with empirical remedies. It is true he is bent upon the investigation and removal of the cause of the disease; but how frequently, when his researches are in vain, or his means of cure are but of gradual operation, do urgent symptoms (and what symptom can equal in overwhelming urgency the pain of tic douloureux?) oblige him to have recourse to this or that remedy which experience or accident have proved to have been sometimes useful in meeting them. Nay, more, his discovery of the cause of the disease would not *a priori*, lead him, on some occasions, to allow that the considerable extent of relief achieved by the remedy were possible; as is seen in some cases of neuralgiæ arising from organic and persistent causes, which are yet frequently much under the control of remedies that a knowledge of those causes would hardly lead us to anticipate benefit being derived from.

However this may be, there can be no doubt that Dr. Hunt has adopted the proper course for illustrating these affections in a satisfactory manner, and pointing out the extent to which our remedial power extends, and the best means of directing it. Mr. Swan, in his Treatise upon the Diseases of the Nerves, strongly insists upon a more discriminatory mode of treatment being adopted than is usually put in force; but we are not aware of any author who has presented so simple and useful a classification of the varieties of the disease as that contained in the work before us.

Omitting the description of the characteristic symptoms of the disease, we will pass in brief review the various causes capable of producing it.

1. *Tic Douloureux from some peculiarity of Constitution or Neuralgic Habit.*—Although many cases of the disease are frequently referred to this which a more diligent investigation of would discover to be attributable to more definite causes, yet there can be no doubt that there is, as the author states, "a class of persons, particularly females, in whom the natural sensibility of the nervous system is so increased as to render them peculiarly liable to neuralgic pains." In these sensitive beings, moral and physical impressions, which produce no ill effects upon ordinary mortals, induce, especially when their naturally feeble powers are lowered by any cause, some of the varieties of neuralgia.

In persons so predisposed, fatigue, anxiety, humidity of climate, the presence of malaria, &c. &c. easily induce the disease, and its removal is not to be accomplished unless these evil influences can be averted. To meet the debility by the direct application of tonics is frequently impossible, as in many cases these induce fever rather than relieve weakness. So too the subdual of the pain by the use of powerful narcotics is often bad practice, tending to obscure the discovery and prolong the operation of the original cause of its production. When, by the removal of various unfavourable circumstances, the patient is placed in a condition more propitious for her cure, time, patience, and perseverance are still required, and the danger of relapse must be borne in mind long after the period when precaution may seem to the unexperienced necessary. By attention to the digestive organs, the adoption of a judicious regimen, and the cautious use of mild tonics and sedatives, much may often be accomplished for fortifying the constitutional powers. Dr. Hunt places great reliance in the selection of a high, dry, open, but not bleak situation as a place of residence; and the pure air of the Welsh mountains has so invigorating an effect, that the patient requires cautioning not to imagine her powers greater than they really are, and by over-exertion induce fatigue, which is almost certain to bring on attack of the disease.

2. *Tic Douloureux arising from Dyspepsia.*—The influence of a disordered condition of the nervous system in the production of dyspepsia is well known, and, on the other hand, the faulty performance of the digestive functions frequently proves the immediate cause of some of the most serious neuralgic affections. *Atonic* dyspepsia, as would be expected, is the usual form which prevails, and the *stomach* sometimes the only organ affected. Errors of diet, arising from too full or too sparing a regimen, may indeed alone call for remedying. Where the stomach is the sole organ in fault, Dr. Hunt has generally found the administration of an *emetic* the best preliminary, and has known many medicines prove successful after its employment which had long before been tried unavailingly. After clearing the stomach by this means and the bowels by a warm aperient, he gives *arsenic* combined with a sedative, "commencing with small doses, on the average of four minims, and gradually increasing the dose daily, until some decided symptom of its action is perceptible, which is commonly evinced, when the dose has amounted to 10." It is then to be

suspended, and afterwards recommenced in small doses, and requires to be continued for several weeks after the pain has disappeared, the neglect of which point by patients causes frequent relapses. As the treatment progresses, a grain of quinine twice or thrice daily will prove useful, although it would not have done so at the commencement. This plan of treatment Dr. Hunt has found far more successful than the administration of large doses of belladonna, iron, or quinine, and indeed it has proved so after these have been tried in vain, as they had been in many cases which came under his care. There are some cases, however, in which these small doses of arsenic seem to augment rather than allay the morbid irritability of the stomach; and in these the peculiar effects of the medicine are shown immediately, and not after gradually augmented doses, as in cases where it agrees. In such, it must be at once abandoned, and, as there is usually some inflammatory action present, a rigid diet, mild diaphoretics and small doses of prussic acid, aperients, and counter-irritation to the epigastrium be employed. After the morbid irritation is subdued, the arsenic may be again tried with caution, and often then succeeds; but if it still disagree, it must be left off again and the case chiefly managed by a due attention to diet. Indeed, a regulation of *diet* in all these cases is of the first importance, for without its careful supervision and due adaptation to each case, medicines will frequently prove useless.

But the dyspepsia is usually of a more complicated character, *the liver and other viscera* being in a condition of congestion: and in these more obstinate cases, the neuralgia, although an effect of the disorder of digestion at first, re-acts upon and increases the obstinacy of the primary affection. So too, many of the remedies employed to mitigate the pain, especially large doses of narcotics, derange in a great degree the various secretions. A primary object of attention is the relief of the infarcted state of the various abdominal viscera, and for this purpose no means can better first be used than a brisk *emetic*, which not only effectually empties the upper portion of the intestinal canal, but, by the action of the abdominal muscles and determination to the surface it necessitates, relieves much of the congestion of the various viscera, and moreover gives immediate though temporary relief to the agonizing pain, and exerts some effect in breaking the habit of its periodical occurrence. Mercurial purgatives must be repeated to the full unloading of the portal system, and a long space of time, or recourse to a mineral spa, may be required to effect this. In obstinate cases even mercurialization of the system, although generally to be avoided, may be required. It is in the class of cases we are now considering, that full doses of *croton oil*, as recommended by C. Bell, are most useful, acting as they do as emetics and brisk purgatives. Lately, small doses of the same drug with stomachic aperients have been found serviceable.

If the pain does not cease when a more healthy condition of the digestive organs has been procured, tonics or sedatives, properly adapted, must be employed. When the pain is intermitting and the system irritable, *arsenic* will be found useful; and when excessive pain and exhaustion are present, *belladonna* is the best sedative, especially when the pain occurs irregularly; while, when it is more periodical, opium and camphor may be given, about an hour before it is expected;—and the doses of these sedatives must be regulated by the extent of relief afforded, or the effect they

produce on the system,—excessive pain causing a toleration sometimes of very large quantities.

Where the powers of the patient are very feeble, a more cautious and intermittent use of purgatives and an earlier use of tonics and sedatives may be required; and *arsenic* will be often found to be borne, when the various tonics are hurtful, although these will afterwards, when given in moderate doses, be found highly useful.

3. *Tic Douloureux from Anæmia.*—The class of persons now to be considered, are contrasted with the first by the possession of a naturally strong constitution, but, having become anæmic, sometimes without obvious cause, become also afflicted with neuralgia. We must confess we think these cases are of rarer occurrence than the author supposes, and that originally low constitutional powers exist in the majority. The pallid and bloodless condition of these persons indicates the propriety of the use of tonics, and it is here that Dr. Hunt, without denying it possesses some efficacy in other varieties also, believes the *carbonate of iron* to be especially useful—requiring also sometimes the aid of belladonna, &c. to mitigate the severity of the paroxysm.

4. *Tic Douloureux from Disease of the Spine.*—In this chapter the author draws the attention of the profession to a very important subject. After describing three interesting cases, he thus proceeds:—

"It was not until three or four similar cases fell under my notice, that I was led to conclude that the neuralgia of the cheek was only the effect or consequence of morbid action in the spine; but the history of the foregoing cases, and still more the effect which the remedies applied to the spine had on the neuralgia, were so striking, that it would be difficult to doubt their connection. * * *

"It is now universally allowed that for a considerable period, more especially from 10 to 20 years ago, numerous young persons were considered to be suffering from disease in the spine, were confined to their couches or beds, and tormented by cupping, leeches, issues, setons, &c. to the serious injury of their health; whilst the pain in the spine and the accompanying, rather than consequent debility, was the result of disorder of the general health, requiring the adoption and firm perseverance in a plan of treatment directly contrary. I think, however, that it must also be admitted, that of late years the opposite error has been fallen into, with far more serious results.

"It cannot be doubted that inflammation and real disease in the spine have, in numerous cases, been overlooked, and that the pain in the back has been considered nervous or hysterical; the incomplete palsy, to a want of volition in the patient; and that attention only to the general health, forced exertion, fresh air, &c. have been persevered in until the disease in the spine has attained to such a height, that the bones and cartilages, in some cases, but more commonly the spinal cord and its envelopes, have become disorganized, and protracted misery or death has been the result.

"Examples of this kind have fallen within my own practice, and several other instances have occurred in that of others, who have mentioned the cases to me

"From anxious and close attention for many years to a considerable number of these cases, I have become impressed with the conviction that many come rightly under both definitions. I mean, that in the commencement, and for a long period after, the pain in the spine is purely nervous or hysterical, depending upon some morbid condition of the body generally; but that, after an indefinite

time, and when it has not yielded to the treatment adopted, the disorder generates gradually into real disease : the state of nervous excitement in the part inducing increased vascular action, a low kind of inflammation, which ultimately produces the disastrous consequences before mentioned." 79.

5. *Tic Douloureux from Disorder of the Uterus.*—Many of the cases comprehended by the author under the above head, would be more correctly included under that of anæmia, originating as they do in uterine hæmorrhage or profuse leucorrhœa—the ordinary sources of the anæmic condition. He alludes to another class of cases, however, viz. the tooth-aches of pregnancy, which occasionally approach tic douloureux in severity, which can only arise in consequence of the morbid sympathies excited in the system by the gravid uterus. So, too, many young delicate women suffer severely from affections of the nerves of the face just prior to the menstrual periods. Of all remedies *arsenic* seems best adapted to neuralgia arising from excessive discharges, as not only allaying the morbid irritability of the nervous system, but also exciting a powerfully restraining effect upon the passive uterine flux : the various other usual local and general remedies, which we need not detail, being also attended to. Quinine, after the cessation of the discharges and relief of the pain, exerts a powerfully strengthening effect upon the constitution. Steel and other tonics, if given prematurely to relieve the mere debility, often do harm, by exciting febrile action and augmenting the menorrhagia.

6. *Tic Douloureux from Diseases of the Brain.*—These cases are frequently not capable of correct diagnosis, in consequence of the length of time the pain may continue intermittent and the temporary success of remedies. The true state of the case is ultimately revealed by the persistence of the pain and its conjunction with other marks of cerebral disease.

7. *Tic Douloureux from Local Mechanical Causes.*—These cases are by no means of infrequent occurrence, although they are sometimes of difficult detection. Among them may be enumerated unnatural growths of bone, tumours along the track of the nerves, local injuries of nerves, foreign substances irritating them, diseased condition of the teeth, &c.

The *teeth* indeed should be always carefully examined, not only during a paroxysm, but when it is not present. During the paroxysm some of the teeth are always severely affected, even when the disease arises from other causes. If a particular tooth be that in which the pain always commences, if it is especially sensitive during the paroxysm, and pressure on it always excites a paroxysm, it should be removed. Teeth apparently sound have their fangs sometimes in an unnatural condition. Small portions of fang left in after extraction sometimes give rise to the disease and should be removed. The author adds :—

" It may not be irrelevant here to remark, that the teeth are more frequently the sufferers from tic douloureux, than the cause of it. I have often observed that the teeth of persons, long afflicted with this disease, however good and firm they may have been originally, become suddenly afflicted with caries, which does not appear to touch the crowns of the teeth, but merely that point at the edge of the gums, at which the enamel begins. Many teeth, indeed the majority of those

in the jaw, the seat of pain, have become affected almost simultaneously. Whether this is to be attributed to the deranged state of the general health, or to the repeated excitement in the teeth themselves, is uncertain. That this disease in the teeth does not produce the neuralgia is evident, from the fact that the teeth do not always become unsound until after the neuralgia has been of long continuance, and sometimes not until it has been cured." 112.

8. *Tic Douloureux from Malaria and other Causes.*—Dr. Hunt, referring to Maculloch for the illustration of the disease as produced by malaria, briefly alludes to the fact of its sometimes following the *recession of cutaneous eruptions*, and irritation of the lower intestines.

Periodical Headache.—This is a common enough disease, especially in aguish localites and in persons suffering from debility. It may, however, attack the robust. It occurs sometimes during pregnancy, but more frequently after undue lactation and anxiety of mind. Those who have once suffered become exceedingly susceptible of future attacks from very slight exciting causes. The disease is generally easily curable if the case be recent. *Emetics* are usually indispensable, and other medicines frequently fail until they have been given. After the due operation of these and purgatives, quinine or arsenic should be given. Large doses of the former are said to cure quicker, but the author prefers more moderate ones as safer, although requiring to be continued longer. The *arsenic* should be given in small doses, and gradually increased until its effect on the stomach becomes apparent, when the pain almost always ceases, after which the medicine may be suspended for a day or two, and then renewed for a few days, or relapses will recur. A combination of capsicum or black pepper with the quinine or arsenic sometimes cures rapidly; and in some obstinate cases the arsenic in substance has succeeded where the solution has failed. Local anodyne applications are sometimes useful. A change of air, either during or immediately after the cure of the complaint, is of great service.

Sciatica.—Dr. Hunt justly insists upon the necessity of distinguishing carefully between the inflammatory and non-inflammatory forms of this disease, which however it is sometimes difficult to do, as it may be inflammatory in one stage, and simply neuralgic in another. The common cause of the acute inflammatory sciatica is the exposure of the lower part of the person to wet and cold. Free cupping and purging must be resorted to, the purgative being combined with colchicum, and followed by Dover's powder. Bleeding and purging will not however always relieve the pain, and must not be continued after the inflammatory action is subdued. Combinations of Dover's powder, calomel, and colchicum are to be continued, with additional opiate at night if required. Successive blisters may be necessary, especially behind the trochanter, and, if the affection yields slowly, one of them should be dressed with mercurial and savine ointment. The mercurial action may be required to the extent of slightly affecting the mouth.

The disease treated actively is usually prevented becoming *chronic*; but this condition may occur without having been preceded by an acute

stage. As there is little febrile action, and the pain intermits, it is often difficult to distinguish this case from one of pure neuralgia. The occurrence of a kind of nocturnal fever, with an exacerbation of pain when warm in bed, sometimes assists in the diagnosis, as does the examination of the urine, which is usually scanty and lateritious in the inflammatory, and pale and abundant in the neuralgic form. In both, the limb frequently becomes powerless and wastes. The disease sometimes comes on very slowly in those exposed to wet and cold, the pain not being severe, except at night, and the limb only lame and weakly; but the general health gradually participates in the mischief. *Mercury* should always be resorted to, where circumstances do not urgently forbid it, and Dr. Hunt especially recommends the following formula:—℞. Hydr. phosphatis, gr. j., Opii. gr. j., Ant. tart. gr. $\frac{1}{6}$, which he gives every night. But when the patient has been long ill before he is seen, and especially if he is advanced in years, the effectual clearing out of the lower bowels must be particularly attended to, not only as a proper preliminary for any treatment, but as operating a complete cure in some cases alone. While the mercury is taking, moderate doses of colchicum and nitrate of potass, mild aperients, sarsaparilla, change of air, &c. according to the requisites of each case, may be employed, and effectual counter-irritation by blister, tartar-emetic, or seton, put into force. The author has found iodide of potassium a useful remedy in the few cases in which he has as yet tried it.

The severe *pain* often requires special remedies, of which opium is usually the best, although Dr. Hunt has found a combination of belladonna, stramonium, and hyosciamus, a very good one. These remedies are especially useful in the true *neuralgic* form of the disease. This may succeed chronic inflammation, or may come on unpreceded by it. The pain is agonizing, occurring at intervals, sometimes periodical ones, during the day, but not with nocturnal exacerbation. When the disease is not traceable to any particular cause, it should be treated in the mode already mentioned as applicable to the tic douloureux. This form is comparatively rare, and the paroxysm has been sometimes averted by large doses of oil of turpentine. It is in this form that acupuncturation proves unquestionably useful, providing there be no inflammation or heat of the parts when the needles are applied.

Sciatica may also be induced by the irritation of piles, prolapsus ani, or the pregnant uterus; and, although the affection usually subsides upon the relief of these conditions, at other times it remains a serious malady.

Intermittent neuralgia.—Among other practical observations are the following:—

"The type usually assumed by neuralgia, is either the quotidian or the tertian, more rarely the quartan, or double tertian. Sometimes the paroxysms return three times a day; occasionally every second or third hour throughout the night, as well as the day: sometimes they recur at the expiration of eight days, a fortnight, or a month; and in some cases, annually, in particular months.

"In the periodical character which it assumes, neuralgia resembles ague: the type varies in the former as well as in the latter; a quartan changes into a tertian; a tertian into a quotidian; and sometimes an intermittent neuralgia becomes remittent.

"No explanation, I believe, can be given, why one form of intermittent should

change to another, a tertian become a quotidian, and the reverse; but there is reason to believe, that, when an intermittent becomes remittent, it is to be attributed to some alteration in the condition of some of the viscera. This opinion is confirmed by the effect of remedies given for the cure of it. I have seen cases of tic douloureux, originally intermittent, which had become remittent, and again assumed the former type; in some, after an emetic and brisk purging; in others, after a free use of calomel, sufficient to affect the system." 155.

If, when the disease has become remittent, the medicines which had proved useful in its intermittent state be persisted in, especially bark and quinine, harm will result. Deobstruents and evacuants must be employed until the visceral engorgement be subdued, after which the anti-periodic may be usefully resumed, occasionally interposing a purgative.

Sedatives.—Employed usually on their introduction into practice as the principal means of cure, these are now looked upon only as valuable auxiliaries, not to be needlessly engaged, and to be dismissed on the earliest safe opportunity. Dr. Hunt states the extract of *belladonna* to be one of the most valuable, a full dose being a grain, which he has never repeated oftener than for three-hourly doses, two of these ordinarily giving relief. It is well known that, in these cases of excessive pain, full doses alone are of use, so that almost incipient poisonous effects have to be produced before relief is obtained.

"That large doses are necessary to produce these effects, and do not cause any of the dangerous symptoms sometimes to be anticipated from them, may be thus explained. The state of the system on which the pain depends, has either the power of resisting the action of these medicines, or a certain amount of their power is expended in bringing the nervous system to its normal state, and until that is effected, the usual symptoms of their action will not be developed; that, however, being effected, a small additional quantity will produce the symptoms above alluded to; which will clearly indicate that the required quantity has been administered, and that relief will soon be afforded, or must not be expected from them." 161.

The Author prefers giving a full ordinary dose, very frequently, to administering a very large one at once, or gradually increasing a small one. Thus the sedative may be given every two, or even every one, hours, with far more safety than in one of the other modes, and with more certainty than in the other. When relief has been effectually obtained, the medicine should be suspended, and a smaller dose will in future suffice to keep the pain in check. A third or half a grain of belladonna may be continued two or three times a day, with a larger one at night, in proportion to the degree of pain and irritability which may remain. As the case improves, the medicine must be still further diminished, and the patient instructed so to take it as to anticipate the paroxysm, when possible.

Sedatives are most useful in the cases of genuine neuralgic habit, where irritability and debility predominate; and in such they must be continued, in small doses, even after the pain has been subdued, gradually diminishing these, and replacing them by invigorating measures, as the improved condition of the symptoms permit. They are very useful, given just before the menstrual periods, in neuralgia, arising from menorrhagia and other uterine disorders. When there is morbid sensibility of the intestinal mucous membrane, although sometimes useful, in small doses

combined with ipecacuanha, or hydr. cum creta, yet, in most cases, they are hurtful. When the urine is pale, copious, and of low specific gravity, they may usually be given with advantage. In a congested condition of the abdominal viscera they do much harm, until, at least, these have been unloaded by purgation, &c.

Sesqui-oxyde of Iron.—This is a valuable medicine in the anæmic condition, and occasionally in other cases dependent upon no obvious cause. It would seem to cure by giving tone to the system, thus economizing the predisposition arising from debility; and is, therefore, sometimes advisable in cases where the pain has already been relieved by arsenic, sedatives, &c. in order to aid in rendering the cure more permanent.

The immensely large doses in which it has been given, are useless or prejudicial, and it usually requires to be continued for several weeks before benefit is derived from its employment.

Arsenic.—Dr. Hunt places great confidence in the beneficial effects of this medicine in properly selected cases, when it is judiciously administered.

"Arsenic operates most favourably on persons who are of lax fibre, accompanied by a languid state of the circulation, and whose secretions are rather profuse than otherwise; the urine pale and plentiful, and more especially on those whose skin is cold and moist. In persons of this description, whilst arsenic, to an extent far beyond other medicine, relieves the neuralgic pain, it improves the general health, and gives firmness and vigour to the constitution.

"I do not mean to assert, that arsenic invariably disagrees with persons of an opposite condition of the system; but when the urine is of a deep colour, and scantily secreted, or when it deposits the lithate of ammonia; the tongue loaded, especially if the tip or edges of it are red; arsenic almost invariably disagrees, and aggravates the pain. But as this morbid state of the system frequently depends on, or is complicated with, disorder of some important viscus, arsenic will often agree, and relieve the neuralgic pain, after the visceral disorder has been removed by appropriate remedies.

"Between these extreme states of the system, there are many shades of difference, which require modifications both in the general treatment, and in the use of arsenic; which it would be needless, were it possible, to describe." 174.

Arsenic is peculiarly indicated in neuralgia from malaria, the neuralgic habit, and in that form which arises from morbid sensibility of the stomach or uterus. It is usually hurtful when the cause of the pain arises from spinal diseases, anæmia, local disease, or injury of the nerves and an engorged condition of the abdominal viscera.

When the bowels have been thoroughly cleared out it may be given in doses of four minims of the liquor three times a day, and in some cases only in two minim doses. A minim to be added daily, until the peculiar effects of the medicine begin to show themselves, when the dose should not be further augmented, and the medicine employed for a few days longer, and then suspended, to be again resumed, in the small doses, if the pain recurs. The disagreeable effects it produces on the skin, stomach, &c. must not be excited to a great extent, and the medicine can seldom be used for a long period without occasional suspension. Where

the liquor has failed, the arsenic in substance, rubbed down with a little black pepper, and carefully divided, has, in doses of $\frac{1}{10}$ or $\frac{1}{20}$ of a grain, often succeeded in relieving the disease.

Dr. Hunt considers that the danger arising from an accumulation of arsenic in the system has been exaggerated. The condition of the urine often alone indicates the propriety of suspending it.

"I have often observed, that one of the earliest indications of its operation is the change in the state of the urine. The urine is less plentifully secreted, becomes more acid, and of a deeper colour; and precipitates, if the medicine be continued for any length of time, the lithate of ammonia. Should no other indication be manifested after arsenic has been given for some time, and in pretty large doses, the use of it should always be suspended, when this alteration of the urine is perceived."

Local Remedies.—Upon these the author places little reliance, although employing them occasionally as means of relieving the pain. Their operation is uncertain, arising, in some measure, as he observes, from the different condition of the nerve, at the seat of pain, where they are applied, as regards tenderness, heat, &c. The *aconitine*, one grain to the ounce, produces a temporary palsy of the nerve, but the pain returns when this effect has subsided. *Belladonna*, either alone, or combined with ung. picis and creosote, or a poultice of linseed meal and bruised *stramonium* seeds, have been found also temporarily useful. *Veratria* the author has never found so, even when employed in the proportion of ten grains to the ounce.

In conclusion, Dr. Hunt remarks, that he is well aware there are other causes of these neuralgic affections besides those he has alluded to, but which, from their obscure nature, too often defy successful investigation. In the mean time, we can only correct every apparent disorder of the system; and by diligently observing the various phenomena, endeavour to obtain a clue to their origin and successful treatment. Our object should be not only to examine into the various exciting causes of the disease, which have been now alluded to, but to endeavour to discover the nature of the constitutional peculiarity upon which their influence depends; from among the vast number of persons who are subjected to them, only a small proportion, owing to the operation of such peculiarity, become afflicted with neuralgia. So, in treating the case, the ostensible relief of the affection is not sufficient; and we must, by amended habits of life, judicious diet, and persevering attention to a variety of apparently minute circumstances, strive to eradicate the delicacy of frame or other peculiarity in which the disease seems primarily to originate; and, in proportion as we succeed in our efforts, will the security against relapse be obtained.

The work, as we have already observed, is valuable, as containing a correct estimate of the amount of our present knowledge concerning this painful and interesting class of diseases, and indicating the mode by which this can be most effectually augmented. Each division of the subject is illustrated by some very interesting cases. We cordially recommend the book to our readers.

THE EPIDEMICS OF THE MIDDLE AGES. From the German of *J. F. C. Hecker*, M.D. Translated by *B. G. Babington*, M.D. F.R.S., &c. Octavo, pp. 418. London, 1844.

1. THE BLACK DEATH.

THE volume before us is the first publication of the Sydenham Society, and contains three translations from the celebrated Hecker, viz. the "BLACK DEATH"—the "DANCING MANIA"—and the "SWEATING SICKNESS," of the Middle Ages. Those dreadful scourges that have, at longer or shorter intervals, desolated the earth and thinned the ranks of mankind, must always prove highly interesting to the physician and the philosopher; but we are far less sanguine than either Hecker or his Translator, that the most accurate and authentic history of these terrific visitations will ever throw light on their nature and cause—perhaps not even on their treatment. Thus, what do we know of the origin, cause, or nature of cholera, which we have all witnessed a few years ago, more than we knew before the advent of the pestilence? Has the dire experience of that epidemic led us to any successful mode of treatment? It would not be easy to answer these questions in the affirmative. The absurd notions that have prevailed in all countries and in all visitations of this kind, that the wells were poisoned, sprung up, even in this enlightened age, when cholera raged throughout the land! True, there were not so many barbarous sacrifices of human life, at the altars of ignorance and prejudice, as in the days of Thucydides, or in the times of the "Black Death;" but still the ridiculous suspicion was harboured by thousands in this country and on the Continent, little more than ten years ago! The talented translator himself seems aware of the mysterious nature of these fearful scourges, and the difficulty of accounting for them on any theory hitherto broached.

"The contagionist and the anti-contagionist may each find ample support for his belief in particular cases; but in the construction of a theory sufficiently comprehensive to explain throughout, the origin and dissemination of universal disease, we shall not only perceive the insufficiency of either doctrine, taken singly, but after admitting the combined influence of both, shall even then find our views too narrow, and be compelled, in our endeavours to explain the facts, to acknowledge the existence of *unknown powers*, wholly unconnected either with communication by contact or atmospheric contamination."—*Preface*, xxiv.

We were somewhat amused with our Translator's apology for delaying the publication "till a moment when it is presumed that men's thoughts will be especially directed to the approaching hour of public thanksgiving." Alas! good, pious, and most religious Doctor, if you allude to Christmas or Easter, you are most egregiously mistaken! The elders of your readers will be far more occupied with the thoughts of roast beef, plum-pudding, and "red Port," than with the "Black Death" of the Middle Ages:—while the younger ones will think a great deal more of balls, concerts, quadrilles, and waltzes, than of the "Dancing Mania" of the Fourteenth

Century! If it be EASTER that is alluded to, the steamings to and from Greenwich will leave little time for reflection on the "Sweating Sickness" of our forefathers. But the translator is too modest. His work will survive many a Christmas and Easter, and be read long after the present generation are in their graves.

THE DISEASE.

The BLACK DEATH appears to have been a real Oriental plague, presenting many of the essential chararacters exhibited by that malady down to the present day. It desolated Asia, Africa and Europe in the Fourteenth Century, and swept away a fourth of the population of the Old World in four years, while in England the rate of mortality was double that! The disease was characterized by inflammatory boils and tumours of the glands—black spots on the skin—affections of the head—black tongue and fauces—burning thirst, &c. These were the ordinary symptoms, though not always present in the same case. But there were others of a graver dye. The organs of respiration were seized with a putrid inflammation, with violent pain in the chest, while blood of a pestiferous odour was expectorated from the lungs. In the West of Europe the predominating phenomena were, ardent fever, with evacuation of blood, often proving fatal in three days. Carbuncular affections of the lungs frequently destroyed life before buboes had time to come out. It was believed that the effluvia of the breath spread the disease far and near. At Florence it commenced with bleeding at the nose—a most dangerous symptom—then followed buboes and tumours indiscriminately all over the body, with black or blue splotches on the arms, thighs, &c. No medicine appeared to be of any use, and death was generally within three days.

"In England the malady appeared, as at Avignon, with spitting of blood and with the same fatality, so that the sick who were afflicted either with this symptom or with vomiting of blood, died in some cases immediately, in others within twelve hours, or at the latest, in two days. The inflammatory boils and buboes in the groins and axillæ were recognized at once as prognosticating a fatal issue, and those were past all hope of recovery in whom they arose in numbers all over the body. It was not till towards the close of the plague that they ventured to open, by incision, these hard and dry boils, when matter flowed from them in small quantity, and thus, by compelling nature to a critical suppuration, many patients were saved. Every spot which the sick had touched, their breath, their clothes, spread the contagion; and, as in all other places, the attendants and friends who were either blind to their danger or heroically despised it, fell a sacrifice to their sympathy. *Even the eyes of the patient were considered as sources of contagion, which had the power of acting at a distance, whether on account of their unwonted lustre, or the distortion which they always suffer in plague, or whether in conformity with an ancient notion, according to which the sight was considered as the bearer of a demoniacal enchantment.*" 7.

Doubtless the Mesmerists will press the "clairvoyance" of the plague patients into their service. The Chronicles report that only one-tenth of the inhabitants of England remained alive!!

The various histories of the various parts of Europe and Asia where the "BLACK DEATH" appeared, leave no doubt that the malady exhibited all the characteristic features of the modern plague. It is hardly necessary to say, that the contagious nature of the disease was firmly believed

by the physicians and people of the Fourteenth Century, as well as by Hecker himself, and the great majority of medical practitioners of the present day.

CAUSES AND DIFFUSION.

It appears, from the researches of Hecker and others, that "great revolutions in the organism of the earth" had not long preceded the eruptions of the Epidemics of the Middle Ages. In China, parching droughts were followed by frightful storms and inundations—more than 400,000 people being drowned in the floods. Mountains fell in, and clefts were opened into the bowels of the earth; after which a pestilence rose and carried off five millions of people! In Europe various terrestrial commotions accompanied or succeeded those of Asia. In the Island of Cyprus, earthquakes, hurricanes, and inundations ushered in the plague of the East, by which this blooming isle was converted into a desert. The atmosphere, which preserves such a remarkable uniformity in all places and in all seasons, evinced very unusual phenomena in the Fourteenth Century. Stinking fogs and mists spread from East to West—while pestilent vapours issued from the deep rents in the earth, and exhaled from the vast marshes caused by the inundations. These circumstances may, in some degree, account for the grave and frequent affections of the respiratory organs. The earthquakes were destructive, and almost universal, while strange meteors appeared in the air and terrified whole nations. The order of the seasons seemed to be inverted—crops failed—and famine added its sufferings to pestilence.

"In the progress of connected natural phenomena, from East to West, that great law of nature is plainly revealed which has so often and evidently manifested itself in the earth's organism, as well as in the state of nations dependent upon it. In the inmost depths of the globe, that impulse was given in the year 1333 which in uninterrupted succession for six-and-twenty years shook the surface of the earth, even to the western shores of Europe. From the very beginning the air partook of the terrestrial concussion, atmospherical waters overflowed the land, or its plants and animals perished under the scorching heat. The insect tribe was wonderfully called into life, as if animated beings were destined to complete the destruction which astral and telluric powers had begun. Thus did this dreadful work of nature advance from year to year; it was a progressive infection of the Zones, which exerted a powerful influence both above and beneath the surface of the earth; and after having been perceptible in slighter indications, at the commencement of the terrestrial commotions in China, convulsed the whole earth." 18.

M. Hecker considers the BLACK DEATH to have been contagious and infectious, in the highest degree, while the constitution of earth and air rendered it universally epidemic.

MORTALITY.

We have no certain measure, like modern statistics, to estimate the ravages of the black plague. The probabilities were, according to Hecker, that, in Kairo, from ten to fifteen thousand died *daily*. In China, more than thirteen millions were swept away—India was depopulated—Tartary, Mesopotamia, Syria, and Armenia were covered with dead bodies—in

Caramania and Cæsarea, none were left alive! It would be needless to pursue the conjectural enumeration of deaths from this frightful scourge. The mortality must have been greatly beyond all idea which we can form from those epidemics that have happened in modern times.

It appears that more accurate records of the mortality were kept in England than in any other country. In Yarmouth 7052 died. In London there was one burial ground, where fifty thousand bodies were deposited, arranged in layers. Throughout the country scarcely a tenth part remained alive! It is wonderful that Europe could have so soon got over such a dreadful shock and destruction of its population. It was universally observed that, after this dire calamity, women became greatly more prolific, and population increased in a far higher ratio than before.

MORAL EFFECTS.

These were various—some good, some evil. The pious closed their accounts with the world—their only remaining desire being the consolations of religion. Repentance seized the wicked—they resolved to forsake their vices and atone for their crimes, before being summoned hence. But hypocrisy, illusion and bigotry also stalked abroad. The *Flagellant* brotherhood started into existence to preach to the people, and offer up prayers for protection from the plague. These became numerous, and formidable to the Church. Then the suspicion arose that the Jews were at the bottom of the pestilence, and poisoned the people by means of pest-powders and other diableries! The rack soon caused numbers of the unhappy chosen people to confess murders and atrocities of which they were perfectly guiltless!

"When the evil had become universal," (speaking of Florence,) "the hearts of all the inhabitants were closed to feelings of humanity. They fled from the sick and all that belonged to them, hoping by these means to save themselves. Others shut themselves up in their houses, with their wives, their children and households, living on the most costly food, but carefully avoiding all excess. None were allowed access to them; no intelligence of death or sickness was permitted to reach their ears; and they spent their time in singing and music, and other pastimes. Others, on the contrary, considered eating and drinking to excess, amusements of all descriptions, the indulgence of every gratification, and an indifference to what was passing around them, as the best medicine, and acted accordingly. They wandered day and night from one tavern to another, and feasted without moderation or bounds. In this way they endeavoured to avoid all contact with the sick, and abandoned their houses and property to chance, like men whose death-knell had already tolled." 47.

Such is the inconsistency, the instability—the utter worthlessness of the human mind!

PHYSIC AND PHYSICIANS.

The medical faculty of Paris was called upon to deliver its opinion on the causes of the "BLACK PLAGUE," and furnish appropriate therapeutic indications. A passage from their etiology will furnish some amusement to our readers.

"It is known that in India, and the vicinity of the Great Sea, the constellations which combated the rays of the sun, and the warmth of the heavenly fire, ex-

erted their power especially against that sea, and struggled violently with its waters. (Hence, vapours often originate which envelope the sun, and convert his light into darkness.) These vapours alternately rose and fell for twenty-eight days; but at last, sun and fire acted so powerfully upon the sea, that they attracted a great portion of it to themselves, and the waters of the ocean arose in the form of vapour; thereby the waters were, in some parts so corrupted, that the fish which they contained, died. These corrupted waters, however, the heat of the sun could not consume, neither could other wholesome water, hail or snow, and dew, originate therefrom. On the contrary, this vapour spread itself through the air in many places on the earth, and enveloped them in fog." 51.

So much for the ETIOLOGY of the BLACK DEATH, as propounded by the College of Physicians, 1346. We can only make room for a very short extract from the hygienic rules laid down by the said learned College.

"We are of opinion, that the constellations, with the aid of Nature, strive, by virtue of their divine might, to protect and heal the human race; and to this end, in union with the rays of the sun, acting through the power of fire, endeavour to break through the mist. Accordingly, within the next ten days, and until the 17th of the ensuing month of July, this mist will be converted into a stinking deleterious rain, whereby the air will be much purified. Now, as soon as this rain shall announce itself, by thunder or hail, every one of you should protect himself from the air; and, as well before as after the rain, kindle a large fire of vine-wood, green laurel, or other green wood; wormwood and chamomile should also be burnt in great quantity in the market-places, in other densely inhabited localities, and in the houses. Until the earth is again completely dry, and for three days afterwards, no one ought to go abroad in the fields." 52.

This reminds us of the sage rules and cautions issued from a high source in our own times, when the cholera was approaching our shores. We all remember how strenuously we were warned to have no intercourse with the world, if we could possibly avoid it—and, if unavoidable, to let down buckets from our attick windows, to haul up provisions, which were to be well fumigated with chloride of lime, before we attempted to swallow them!! We need not, therefore, indulge in deep laughter at the instructions of the Paris Faculty four hundred years ago.

There were several physicians, however, at that remote period, who rose far superior to the collective wisdom of the Parisian College. Guy de Chauliac was a star of considerable magnitude in those melancholy times. A conjunction of Saturn, Jupiter, and Mars in the sign of Aquarius, was considered by him and the other medical magnates, as the evident cause of the pestilence, and a corruption of the blood, as the immediate effect, or proximate cause of the epidemy. Bleeding and purging were the prominent measures employed, together with a host of ridiculous and unimportant remedies which need not now be noticed. Segregation was a prominent feature in the treatment, or rather the prevention of the malady, and our quarantines still keep up the charter, to the great annoyance of commerce, and without a particle of utility. It is a precious remnant of the wisdom of our ancestors—of which the following specimen deserves record. The first regulation is dated 17 January, 1374, and enjoins that "every plague-patient is to be taken out of the city (Reggio) into the fields, there to die or recover." The priests were to examine suspected persons and report them, under punishment of being *burnt alive!* Thus ends our sketch of the "BLACK DEATH." The record of its devastations is melancholy and curious; but we do not see that it throws one single ray of light on the etiology, pathology, or therapœia of the direful epidemic.

II. THE DANCING MANIA.

The BLACK DEATH had scarcely closed the graves over millions of the human race, when a strange superstition arose in that cradle of ideality—Germany, which, in the quaint language of Hecker, "hurried away body and soul into the magic circle of hellish superstition." It was termed the Chorea St. Viti, on account of the Bacchanalian leaps which characterized it, causing those affected to scream and foam, as though they were possessed by Satan. It seemed to be propagated over all Germany, and beyond its bounds, by sight or imitation. Early in 1374, assemblages of men and women were seen at Aix-la-Chapelle, forming themselves into circles, hand in hand, dancing for hours together, in wild delirium, till they fell to the ground in a state of exhaustion, groaning as if in the agonies of death. After a time they recovered till another attack took place. Their abdomens became tympanitic in their paroxysms, and tight swathing relieved them after the accession. During the dance they neither saw nor heard, but were haunted by visions, and wild fancies. In many, an epileptic paroxysm preceded the dancing fit.

"In Liege, Utrecht, Tongres, and many other towns of Belgium, the dancers appeared with garlands in their hair, and their waists girt with cloths, that they might, as soon as the paroxysm was over, receive immediate relief on the attack of the tympany. This bandage was, by the insertion of a stick, easily twisted tight: many, however, obtained more relief from kicks and blows, which they found numbers of persons ready to administer; for wherever the dancers appeared, the people assembled in crowds to gratify their curiosity with the frightful spectacle." 89.

The evil increased and spread to an alarming state, and the priests endeavoured to exorcise the demon that possessed the people, who rose upon the clergy and threatened them with destruction. Dr. Hecker describes over and over again, with most needless minuteness, the phenomena of this dancing mania, as it appeared in different places, and then he endeavours to trace its causes, but with little success. He thinks they were in some degree connected with certain ancient festivals in honour of St. John the Baptist. Paracelsus was the physician who distinguished himself, most in the management of the dancing mania. A sample of his therapeutics will be sufficient.

"For the second kind of St. Vitus's dance, arising from sensual irritation, with which women were far more frequently affected than men, Paracelsus recommended harsh treatment and strict fasting. He directed that the patients should be deprived of their liberty; placed in solitary confinement, and made to sit in an uncomfortable place, until their misery brought them to their senses and to a feeling of penitence. He then permitted them gradually to return to their accustomed habits. Severe corporal chastisement was not omitted; but, on the other hand, angry resistance on the part of the patient was to be sedulously avoided, on the ground that it might increase his malady, or even destroy him: moreover, where it seemed proper, Paracelsus allayed the excitement of the nerves by immersion in cold water. On the third kind we shall not here enlarge. It was to be effected by all sorts of wonderful remedies, composed of the quintessences; and it would require, to render it intelligible, a more extended exposition of peculiar principles than suits our present purpose." 103.

With the Sixteenth Century the dancing mania seems to have expired, and was converted into the fighting mania, which raged during a great part of the Seventeenth Century, with still more fury and fatality than its predecessor.

We shall not follow our author through the details of this mania, as it appeared in Belgium, Germany, Italy, Abyssinia, and other parts of the globe, modified, of course, by climate, manners, religion, &c. The Black Death, or the Sweating-Sickness, may possibly return; but St. Vitus, except in sporadic cases, is not very likely to pay an epidemic visit to Europe again.

III. THE SWEATING SICKNESS.

This forms the third and concluding Article in the first volume of the Sydenham Society. To Englishmen it is more interesting than either of its predecessors—the "BLACK DEATH," or the "DANCING MANIA." This dreadful epidemic broke out in 1485, soon after the battle of Bosworth. It was a violent inflammatory fever, ushered in by a rigour, and succeeded by a most remarkable prostration—oppression at the præcordia—headache—stupor, and profuse fetid perspiration. The crisis, favourable or otherwise, was over in the space of a day and a night. The internal heat was insufferable; and yet refrigerants were fatal. The victorious HENRY had scarcely reached London, when the malady burst forth, and the Lord Mayor and sixteen Aldermen died within a week. The disease generally selected the most robust and vigorous for its victims. Scarcely one in one hundred recovered at first; but it passed over the metropolis like a flash of lightning, as it were, and terminated its career in five weeks. One attack was no security against a second, or even a third. It spread over the whole country, as nearly equally fatal every where as in the metropolis.

THE PHYSICIANS.

They could do no good in this terrific scourge, and they are nowhere alluded to in the histories of the Epidemic! Even LINACRE, who had experienced three attacks of the malady, in his own person, gives no account of it in any of his writings! The people, left to their own resources, adopted the wisest method of treatment. They avoided all violent medicines—abstained from food—applied moderate heat—and drank only a small quantity of mild fluids. On the first of January, 1486, a violent tempest arose from the East, purified the atmosphere, and swept the Epidemic clear out of town and country.

CAUSES.

This Epidemic confined itself entirely to England, and ventured not into Ireland, Scotland, or even Calais, then in our possession. "It plainly appeared, (says Hecker,) in the sequel, that the English SWEATING SICKNESS was *a Spirit of the Mist*, which hovered amid the dark clouds." Meantime other European nations, though they escaped the Sweating

Sickness, were scourged by various other epidemics, of longer duration, but not quite so fatal.

"It was (says our author) an inflammatory rheumatic fever, with great disorder of the nervous system. This assumption is supported by the manner of its origin and its especial characteristic of being accompanied by a profuse and injurious perspiration. From the judgment that we are now capable of forming of the pernicious influences which prevailed in the year 1485, it may, without hesitation, be admitted that the humidity of that and of the preceding years affected the functions of the lungs and of the skin, and disturbed the relation of this very important tissue to the internal organs of life. This is the usual commencement of rheumatic fevers, which bear the same relation to the sweating sickness as slight symptoms bear to severe ones of the same kind. The predominance of affections of the brain and of the nerves, however, gave to the English epidemic a peculiar character. The functions of the eighth pair of nerves were violently disordered in this disease, as was shown by oppressed respiration and extreme anxiety with nausea and vomiting, symptoms to which the moderns attach much importance." 191.

It is scarcely worth while to notice this fanciful pathological hypothesis, since neither Hecker, nor any one else, can form the slightest idea of this mysterious malady. Between Sweating Sickness and Acute Rheumatism, there certainly is very slight analogy. Rigours usher in almost all fevers of an inflammatory nature, and perspiration is far from being common in the first day's rheumatic fever.

SECOND VISITATION.

In 1506, this epidemic again appeared. Great revolutions were now taking place in Europe. Printing was invented, to dispel the clouds of darkness—a new world was discovered, to excite the energies of mankind—the circumnavigation of Africa opened golden prospects in the East—regal power was fixed on a firmer basis—standing armies were established as the pillars of civil order, but at the same time as the instruments of tyranny and oppression. It was at this time, too, that syphilis raised its mysterious head, and spread over Europe, with the rapidity of lightning. Meantime, in the Summer of 1506, the Sweating Sickness suddenly broke out in London, and, after a few weeks, again disappeared. In this second visitation, as in the first, "the malignant fever was left to the curative powers of Nature, and no powerful medicines administered." The result was extremely favourable—"in few houses did any fatal cases occur." As usual, medical histories of the Epidemic are nowhere to be found; and whether it penetrated through England, or was confined to London, does not appear. Cotemporary with this mild epidemic in England, however, there were many prevalent scourges, of different kinds, on the Continent, as the petechial fever in Italy, &c. &c.

In July, 1517, the third eruption of the SWEATING SICKNESS occurred in London, under the mild sway of our Eighth HENRY.

"On this occasion it was so violent and so rapid in its course, that it carried off those who were attacked, in two or three hours, so that the first shivering fit was regarded as the announcement of certain death. It was not ushered in by any precursory symptoms. Many who were in good health at noon, were numbered among the dead by the evening, and thus as great a dread was created at

this new peril as ever was felt during the prevalence of the most suddenly destructive epidemic: for the thought of being snatched away from the full enjoyment of existence without any preparation, without any hope of recovery, is appalling even to the bravest, and excites secret trepidation and anguish. Among the lower classes the deaths were innumerable. The city was moreover crowded with poor; but even the ranks of the higher classes were thinned, and no precaution averted death from their palaces." 210.

Although very fatal, it subsided in September, and was followed by the Plague. This visitation appears to have spread through England. In Oxford and Cambridge it carried off many distinguished scholars. Scotland and Ireland were spared.

No particular atmospheric or telluric phenomena preceded this epidemic, or threw any light on its etiology. Its contagious character was, of course, believed in, but if contagion existed, it is rather strange that the disease never penetrated into Scotland or Ireland.

The fourth devastation of the Sweating Sickness in England, took place in 1528-9. But, at this time, Europe itself was scourged by the same pestilence, which began in France, after the disasters of their army before Naples, and spread in all directions. In London it broke out in the latter end of May, and spread rapidly over the whole country. The mortality of this outbreak cannot be even guessed at, though it must have been prodigious.

"As soon as the occurrences of this unfortunate year could be more closely surveyed, a conviction was at once felt, that *it was one and the same general cause of disease which called forth the poisonous pestilence in the French camp before Naples, the putrid fever among the youth in France, and the sweating sickness in England, and that the varying nature of these diseases depended only on the conditions of the soil and the qualities of the atmosphere in the countries which were visited.*" 240.

We need not follow Dr. Hecker in his account of the Sweating Sickness, which now spread over Germany, the North of Europe, &c.

"The alarm which prevailed in Germany surpasses all description, and bordered upon maniacal despair. As soon as the pestilence appeared on the continent, horrifying accounts of the unheard-of sufferings of those affected, and the certainty of their death, passed like wild-fire from mouth to mouth. Men's minds were paralyzed with terror, and the imagination exaggerated the calamity, which seemed to have come upon them like a last judgment. The English Sweating Sickness was the theme of discourse everywhere; and if any one happened to be taken ill of fever, no matter of what kind, it was immediately converted into this demon, whose spectre form continually haunted the oppressed spirit. At the same time, the unfortunate delusion existed, that whoever wished to escape death when seized with the English pestilence, *must perspire for twenty-four hours without intermission.* So they put the patients, whether they had the Sweating Sickness or not, (for who had calmness enough to distinguish it?) instantly to bed, covered them with feather-beds and furs, and whilst the stove was heated to the utmost, closed the doors and windows with the greatest care to prevent all access of cool air. In order, moreover, to prevent the sufferer, should he be somewhat impatient, from throwing off his hot load, some persons in health likewise lay upon him, and thus oppressed him to such a degree, that he could neither stir hand nor foot, and, finally, in this rehearsal of hell, being bathed in an agonizing sweat, gave up the ghost, when, perhaps, if his too officious rela-

tives had manifested a little discretion, he might have been saved without difficulty." 258.

One physician, whose name has sunk in oblivion, opposed this barbarous mode of treatment, and went about from house to house, dragging the smothering patients from their beds of torture with his own hands—and thus preserving more lives than he could have done by physic.

We must now bring our notice of Hecker's work to a close. It is greatly and unnecessarily swelled out by matters very little relevant to the chief subjects. His researches into the causes of the diseases, moral, physical, religious, or political, are not merely unsatisfactory, but, in most cases, futile. Thus, in speaking of the Sweating Sickness in Germany, he endeavours to connect its etiology with the Reformation.

"The excitement was beyond all bounds. The new doctrine took root in towns and villages, but nevertheless, the most mortal party hatred raged on all sides, and, as usually happens in times of such impassioned commotion, selfishness was the animating spirit which ruled on both sides, and seized the torch of faith, in order, for her unholy purposes, to envelop the world in fire and flames." 259.

It is much more consonant with observation and experience, to find times of moral, political or religious excitement and perturbation, preventive of, rather than conducive to, epidemic diseases. It is not during the bustle of a campaign that the soldier is liable to illness, but after the hurly-burly is over.

We may remark, in conclusion, that the Epidemics of the Middle Ages, are merely matters of curiosity; and we do not believe that they do, or ever will, throw a single ray of light on the etiology, pathology, or therapeutics of epidemics in general, or of themselves in particular.

REPORT OF THE COMMISSIONERS APPOINTED TO TAKE THE CENSUS FOR IRELAND FOR 1841. (With Classified Tables of Deaths, and Report thereon). By *William Robert Wilde*, Surgeon. Dublin, 1843.

ANY surprise we may have felt at the publication of the Irish Census being delayed so much beyond the appearance of that of Great Britain, was completely removed upon the reception of this portly tome; and upon examination of its contents and passing the eye over its seven or eight hundred folio pages of minutely elaborated tables, we only wonder that any diligence or perseverance could have prepared it so soon, especially when the additional difficulty the imperfect character of some of their materials entailed upon the Commissioners is considered.

The important benefits conferred upon England by the Registration Act, are now generally acknowledged, and will become more and more apparent as the accumulated figures give a larger field for examination and

inference: and it may well be inquired, why Scotland and Ireland, (that is, eleven out of the twenty-seven million of our population,) should be excluded from benefits which, although now only realizing, were well known as inevitable prior to the passing of the act. While this exclusion continues, the demonstration of the condition of this country, as a whole, is of course impracticable, much to the disappointment, and sometimes, to the deception of foreign staticians; and the comparison of its parts, so essential to its welfare and improvement, must be imperfect.

The present Census is a laudable attempt to remedy some of the evils the great neglect of statistical inquiries in Ireland has given rise to; and to place before the public information respecting some of the points as regards Ireland, which the Registrar's Reports have so beneficially diffused concerning England. The Commissioners were well aware of the importance of their task, but also found it attended with some considerable difficulties. Alluding to the various collateral subjects into which they had endeavoured to inquire,—they say—

"Many inquiries of a similar nature might, no doubt, have been pursued with advantage to a correct knowledge of the condition of the people. We felt, in fact, that a Census ought to be a Social Survey, not a bare Enumeration. But we were restrained by the apprehension that jealousy and prejudice might be excited, if we made our inquiries too searching and too minute. People are slow to see that questions relating to themselves and their households can have any bearing upon the general good, and forget that, in accounts of large numbers, the individual is wholly lost sight of in the average, but that the average can only be obtained by an accurate knowledge of all that pertains to the individual."

If the Registrar-General has been fortunate in meeting with such an able coadjutor as Mr. Farr, the Irish Census Commissioners have been no less so in securing the services of Surgeon Wilde. His elaborate analysis of the deaths which occurred during the ten years preceding the taking the Census is a masterly performance, and his Report a most interesting document, as exhibiting the defective condition, or rather the entire absence, of registration of death in Ireland, for even Bills of Mortality seem scarcely to have existed there, a candid exposition of the amount of information derivable from this *ex post facto* registration by means of the Census, and as opening new ground for, and smoothing many of the difficulties of the subject to future inquirers.

To this part of the publication we intend chiefly to confine ourselves; but may just state, previously, some of the general results arrived at by the Commissioners.

In the first place we have to remark the small increase of population which has taken place between 1831-41, compared to 1821-31: the numbers being, for the year 1821, 6,801,827; for 1831, 7,767,401: *i. e.* an increase of about 14¼ per cent.; and for 1841, 8,175,124, or an increase of only 5¼ per cent. There is some reason to believe that the Census for 1821 was rather under, and that for 1831 rather over-stated. Emigration has been the principal cause of the diminution, for Ireland being solely an agricultural country, has not the means of employing an increasing population. In *Scotland*, the population increased $10\frac{8}{10}$ per cent.: $27\frac{8}{10}$ per cent. in the manufacturing districts, and $4\frac{7}{10}$ in the agricultural.

The state of *house accommodation* is one element for measuring the prosperity of a people. In 1821, there were 1,142,602 inhabited houses; in 1831, 1,249,816, or an increase of $9\frac{6}{10}$ per cent., and in 1841, 1,328,839, or an increase of 7 per cent. "Nearly one-half of the families of the rural population, and somewhat more than one-third of the families of the civic population, are living in the lowest state, being possessed of accommodation equivalent to the cabin, consisting of but a single room. In the third class, but little removed in comfort, are nearly the same proportion, while of the other class (the house accommodation is divided into four classes) the number is extremely small."

Occupation.—Two-thirds of the male and more than one-third of the whole community are engaged in producing, preparing, and selling food. It is well observed that *juvenile labour* is in nowise confined to factory or mechanical employments. "It is a feature of the age, and pervades every class of society, arising, doubtless, from the fact that greater numbers render both subsistence and destination more difficult than formerly."

Education.—The state of education in different parts of Ireland (as in different parts of England) exhibits great varieties, from the one extreme of 25.16 per cent. of population in Dublin five years old and upwards who can neither read nor write, to 79 per cent. in Mayo. So, too, in Dublin, 25 per cent. of the population from 5 to 15 are attending schools, but only 8.3 in Mayo. At the period of returning the census 1821, 394,814 children were in actual attendance at schools, and in 1841, 502,491.

Marriages.—Of the proportion of the married to the unmarried, taking all Ireland into account, we have the following statement. Of 100 males above 17 years of age in the rural districts, there are 44 unmarried, 51 married, and 5 widowers; in the civic districts, 41 unmarried, 53 married, and 6 widowers. Of 100 females in the rural districts there are 38 unmarried, 50 married, and 12 widowed; and in the civic districts, 41 unmarried, 43 married, and 16 widowed. These and other tables, made for a population of more than eight million, confirm the results arrived at by Quetelet, in Belgium, that the *unmarried* are two-thirds of the community (about $\frac{2}{3}$ are under the age at which it is usually contracted), most numerous in rural districts, and among the male sex; and that the widows are twice as numerous as the widowers, and most so in civic districts.

As to the *age* at which marriage is contracted, 7 per cent. of the males, and 19 per cent. females in rural districts; and 13 per cent. males and 21 per cent. females in civic districts, are married between the ages of 17 and 25. "The average age at which people marry is found to vary with the mortality of the district; and the short-lived populations of unhealthy towns are, in their early marriages, merely following the same law which operates upon the longer-lived rural population, who marry at a later period, each seeking the renewal of his race towards the middle period of his existence." By far the greatest number of marriages of both sexes occur between the years 2 5 and 35. Prior to the perusal of these statements, we certainly believed that early marriage was far more prevalent in Ireland than it proves to be.

By 109 marriages in which neither parent had been married before, 228

children were produced; in which the husband had been married before, 164; in which the wife had been married before, 143; and in which both parents had been married before, 87.

As to the *sex* of the children, we have the following observations:—

"It is worthy of notice, that even within the period to which these marriages belong, (ten years), the proportion between the sexes of the children is on the whole consistent with the results given throughout Europe generally from marriages whose families are complete, the difference in the age of the parties producing the same effect at any given period of time that would be produced from the same parties by continuance of time. Thus the proportion of male to female children is about 106 to 100, and is somewhat higher in towns than in the country, though it differs considerably in different years. The children appear generally to follow the sex of the elder parent, but this result is not invariable. On the contrary, it will be seen that when the age of the father exceeds by as much as twenty years that of the mother, especially in second marriages, the female births preponderate: from which circumstance, as well as some others which the tables indicate, it would appear that difference of age has a different value at different periods of life; or, in other words, that the sum as well as the difference of the ages of the parents ought to form an element in a calculation of probabilities on the sex of children.

"It may also be worthy of remark that, if the children of first marriages during the first five years of these tables be totalled separately from those of the five last years, the male births will somewhat predominate in the latter; from which it perhaps may be inferred that the early births of any given marriage are likely to be male, and that after a few years females begin to predominate: which may also point to the conclusion just adverted to, viz. that difference of age diminishes in its effect as the age of both parties advance. If tables of this nature were regularly collected, interesting results of this class might safely be drawn from them. We content ourselves, however, with forming these tables rather as a groundwork for future comparison, than as yet furnishing sufficient data for statistic calculation. But, we may remark in passing, that it will be seen, by reference to the table of Births, which gives the births of the whole community during the last 10 years, that the proportion of males to females is only 104 to 100, instead of 106 to 100, as in these tables, which give only the births from marriages which have taken place since 1830: whence it would appear that the number of female children has been greater in the marriages which still continued productive though they had taken place before 1830."

Deaths.—The number of deaths registered as occurring in the 10 years 1831-41, amounting to 1,187,374, is of course a lower one than the number which really occurred: owing to the emigration and extinction of some families, and the forgetfulness of others who furnished the returns, which were alone obtained from voluntary statements furnished by the families in existence on the night of the 6th June, 1841. The Commissioners believe the deficiency may be rated as high as one-fourth. But they add—

"On the whole, we think it will be admitted, that however defective these returns of death may be in absolute numbers, they possess an extraordinary interest as a classified and digested record of the *causes* of more than a million of deaths. On these subjects we refer to the Report of Surgeon Wilde, of whose services we have availed ourselves in their compilation, abstaining from any comment of our own on the prevailing sources of mortality and disease, from feeling that his own views and ideas should rest upon his own responsibility.

Surgeon Wilde has devoted much labour and ability to the subject, and as these returns show the distribution and prevalence of disease, they will not be without a peculiar utility at the present moment, while the consideration of that subject excites so much public attention."

When we state that all these deaths are classed and tabulated, so as to show in what proportions the various diseases which have produced them have prevailed in every country district and town of importance of Ireland, their commanding utility to the statesman and philanthropist must be apparent. Our object, however, is rather with some of the general results than with the examination of the relative condition of particular divisions of the country; and we will content ourselves with the following statement upon this point, viz. that for all Ireland the average age at death for *males* has proved to be 29.6 in rural and 24.1 in civic districts; and for *females*, 28.9 in rural and 24.3 in civic districts: but for the separate provinces it is as follows:—*Leinster*, Males 32 rural, 25 civic: females 31.5 rural, 25.4 civic. In *Ulster*, males 31.8 rural, 23.8 civic: females 32 rural and 23.6 civic. In *Munster*, males 28.2 rural, 23.6 civic: females 27 rural, 23.7 civic. In *Connaught*, males 26.1 rural, 22.6 civic: females 24.3 rural, 22.4 civic.

"The remarkable difference in the duration of life in Leinster and Ulster over Connaught and Munster, is too striking to be overlooked. The latter are the most exclusively agricultural, and from the analogy of Great Britain, should, on that account, seem likely to present the longest, rather than the shortest, average duration of existence. We fear, however, that the very low state, as to food and accommodation, of the rural population of these provinces, would be found, by a more searching inquiry and comparison, to place them in a sanatory point of view, more nearly equal with the crowded inhabitants of the western parts of England and Scotland, rather than the healthy rustics of the English and Scotch agricultural counties."

Mr. Wilde not only arranged this 1,187,374 deaths thus reported, according to their various causes, ages, and years of occurrence, but obtained additional returns from the various Hospitals, &c., a return of 25,378 deaths from cholera from the Board of Health, a return of deaths and executions occurring in jails, and returns of coroners' inquests and deaths in lunatic asylums. He thus left no source of information unapplied to: and followed in arranging the whole mass for the most part the nosological classification recommended by Mr. Farr,* as the simplest and most scientific yet proposed, and as offering facilities for the comparison of the diseases and mortality of the two countries. He comprises the whole, however, under 93 causes of death only, Mr. Farr enumerating 145.

The detail of these causes of death is preceded by an interesting disquisition upon the antiquity of the practice of medicine in Ireland. It would indeed be expected that the country which, when the rest of Europe was

* Those of our readers who do not possess Mr. Farr's pamphlet, detailing his Statistical Nosology, should apply for the same at the Registrar's Office, where they may obtain it gratuitously. It is of great importance that medical men should do all in their power to render the registration of deaths as accurate as possible, as regards nomenclature; for if this be left to the friends of the deceased, much of the value of the returns becomes diminished.

plunged in barbaric ignorance, cultivated learning, music, and other attainments of a politer age with earnestness and success, should excel in the simple medical knowledge of the period. The nation which could supply Charlemagne with his preceptor, and Alfred the Great with learned companions, would not be deficient in medical seers. But when our author traces the cultivation of what deserves to be styled medicine, to a period coeval with or anterior to the Christian Æra, we think that the national passion for antiquity, so conspicuous in various historical records, somewhat predominates. None of the writers upon medicine, medieval or modern, furnish an enumeration of the diseases of the country, and no General Bill of Mortality has ever been drawn up before the present, and even Bills for the City of Dublin, if ever they were kept with regularity, have long ceased to be so.

In the First Grand Class, viz. the *Epidemic, Endemic, and Contagious Diseases*, the total number of deaths amounted to 381,249; as 100 males to 92.93 females. A few condensed observations upon each of the sixteen diseases constituting these, may be interesting. We will enumerate them in their order of relative frequency.

1. *Fever.*—From this, the Plague of Ireland, (it is doubtful whether the true plague ever visited Ireland,) the Census-returns furnish 112,072 deaths; 100 males to 86.14 females, and 1 death in every 10.59 of the mortality from all causes, and 1 in 3.4 of the deaths of the total epidemic class of diseases. The spotted fever or true *Typhus Hibernicus* is recorded in the early Irish MSS., and existed in the island probably long before any records of its appearance. Although probably always endemic, the first authentic account of its appearing epidemically occurs as late as 1708, since when numerous similar visitations have been recorded. The present returns however prove that the statements of mortality, in some of these roughly put down at 60,000 or 80,000, must have been exaggerated. Drs Barker and Cheyne calculated the number of persons attacked by the celebrated epidemic of 1817–19 at a million and a half. It spared neither rank nor locality, and 100,737 persons were admitted into the hospitals, of whom 4,349 died. These writers are confirmed, by the present Census, in their opinion of the greater prevalence of the disease among males. This was the last pestilential epidemic in Ireland prior to the appearance of cholera in 1832. It is singular that fever has raged nearly decennially.

2. *Small-pox.*—58,006 deaths, 100 males to 96.45 females. Proportion to general mortality—1 in 20.46, and 1 in 6.57 to epidemic disease. The disease especially prevailed in 1837–8. Although constituting so large a share of the mortality, this disease, notwithstanding the rapid progress of population, is but one-half so prevalent in the City of Dublin as it was a century ago. Vaccination was long neglected in Ireland, and even now, in spite of its illegality, people pass from village to village for the express purpose of inoculating children. Two or more epidemics have usually prevailed simultaneously in Ireland, and thus when fever especially prevailed in 1740 and 1817, small-pox likewise raged epidemically and with great fatality. The public hospital returns only give 129 deaths in the ten years.

3. *Cholera.*—"The total deaths from this disease are 50,769: but as its duration was limited, being epidemic at most for only three years, 1832-4, it is only in comparison with the general deaths of these years, that any fair or just proportion can be made. Upon this period its comparison with the deaths from all causes is 1 in 7.36, and compared with those of the epidemic class, 1 in 2.77. After the year 1834, when 4,419 deaths are returned, the mortality from this cause fell rapidly till the years 1837-8, when it rose again to 968 and 1,222." No age from 1 to 70 was spared by this disease, but it prevailed most from 35 to 40, and from 45 to 50. In the Dublin Cholera Hospital Records the sexes were 100 males to 137.34 females. Upon its first outbreak in 1832 the cholera prevailed most in the towns of the civic districts; and in 1833 it had spread through the country at large, and prevailed most in the rural districts.

4. *Croup.*—42,705 deaths, 100 males to 82.89 females. The males preponderate over the females at every age registered. It prevailed in the rural, compared to civic districts, as 40 to 27; and in comparison with the general mortality 1 in 27.8, with other epidemics 1 in 8.92. As the great numbers above-mentioned were furnished by persons not conversant with nice distinctions, several cases of other diseases may have been included.

5. *Hooping-Cough.*—36,298 deaths, (21,325 within the first year), the proportion of the sexes being reverse to that which prevails in croup, viz. 100 males to 115.43 females. In comparison with other mortality, 1 in 32.71, and with epidemics 1 in 10.5.

6. *Measles.*—Deaths 30,739. Males 100 to 96.12 females. Compared with all diseases, mortality 1 in 38.62, with epidemic 1 in 12.4. It was most fatal from birth to the end of the first year; and more than a third of all the deaths occurred in the civic districts. The Irish call it "the boiling disease," and it is first noticed in Irish records of the 16th century.

7. *Pemphigus.*—17,799 deaths, as 100 males to 78.93 females: 1 in 66.72 deaths, and epidemics 1 in 21.42. This, the *pemphigus gangrænosus*, so named by Dr. Whiteley Stokes, has long proved a most destructive disease in Ireland, and is known to the people by the names of "Mortifying Hive," "Burnt Holes," "Eating Disorder," &c. Dr. Speer observed it was confined to children of three months old, and from that to five years, but it has been observed near Dublin in children nine years old. The children of the poor, and those of them who live in damp situations, are especially liable, although the finest of the family is usually attacked. The disease as well as its modification, Pompholyx, has been seen in adults, and four cases are in the present hospital returns. It prevails especially in rural districts, and in particular counties. In Ulster it was in proportion to other deaths 1 in 17.8, in Connaught 1 in 250.27.

8. *Diarrhœa and Dysentery.*—10,744 deaths, 100 males to 68.42 females, 1 in 110.51 general deaths, and 1 in 35.48 epidemic. This is a return that can be little depended upon, seeing the diarrhœa must frequently have been the mere symptom of various fatal diseases, rather than of dysentery, properly so-called. Dysentery seems in ancient times to have been endemic in various parts of Ireland, and broke out in occasional violent epidemics, especially among the soldiery. The last period when

it was generally and fatally prevalent was 1818; but it has decreased much of late years.

9. *Influenza.*—Deaths 10,575, as 100 males to 84.65 females: being 1 in 112.28 general, and 1 in 36.05 epidemic deaths. Accounts exist of the epidemic prevalence of this disease from time to time from the beginning of the 17th century; but no very violent outbreak occurred until 1833-4, and again a very fatal one in 1836-7; during which last, Dr. Graves calculates the direct mortality from influenza alone in Dublin amounted to 4000. But Mr. Wilde considers this a great over-statement.

10. *Scarlatina.*—Deaths, 7,886; males 100 to 95.97 females; 1 in 150.56 of the total recorded mortality, and 1 in 48.34 of the epidemical. Like cholera, it was especially fatal in towns and crowded districts; and in this respect it is thus compared with other epidemics, 1 death in 24.63 in civic districts, and 1 in 65.07 in rural districts. It is not so destructive as other epidemics during the first year; but $\frac{1}{11}$ of the total died between the 1st year and the 10th.

11. *Thrush.*—Deaths 1480. Males 100 to 116.06 females. 1 death in 802.27 of the entire mortality: of these 1147 occurred in the first year, and 300 from the 1st to the 5th.

12. *Erysipelas.*—Deaths 1232. Males 100 to 73.52 females. 1 death in 963.77 from all causes, and 1 in 309.45 from epidemic. Most of the cases recorded were doubtless sporadic, the epidemic appearance of the disease being confined to hospitals. The disease prevailed most in the civic districts.

13. *Ague.*—Deaths 518. Males 100 to females 44.28. This disease is of comparative rare occurrence, and in course of great diminution in Ireland. By some it has been considered entirely an imported disease, and the greater frequency of its occurrence and mortality in the West of Ireland, the chief locality of the annual emigration to and from England, gives support to the opinion. Ague was a cause of death in frequency to the general mortality in the following proportions: in Leinster 1 in 2,548.77: in Munster 1 in 2,115.73: in Ulster 1 in 3,005.61: and in Connaught 1 in 1,696.04.

14. *Syphilis.*—Deaths 384. Males 171, females 213. In reference to the sex, the disproportion has arisen from the women dying in hospitals and the men in many cases returning home, and their deaths being registered as from other causes. Of course the returns for a disease of this nature are not to be relied upon.

15. *Hydrophobia.*—There are 31 deaths registered as occurring from this cause—24 males and 7 females. Three of these, reported to have occurred during the first year, may be doubted.

16. *The Glanders* destroyed 10 males and 1 female.

SPORADIC DISEASES.—We can only notice some of the most important of these.

1. *The Nervous System.*—Total deaths 104,063. Males 100 to females 73.87. These deaths, compared with the general mortality, amount to 1 in 11.41.

Hydrocephalus.—Deaths 8,997. Males 100 to 78.93 females. During the first year the deaths amounted to 3002; from the first to the end of

the fifth, to 3189; from the fifth to the tenth inclusive, to 1817; and from that age upwards, to 976; in this latter number must have been included a large proportion of diseases of the brain not generally considered as examples of hydrocephalus.

Apoplexy.—Deaths 11,185. Males 100 to 56.82 females. Deaths in hospitals 139 males and 52 females. The rural districts have afforded the chief mortality.

Convulsions.—Deaths 66,870. Males 100 to 76.78 females. Proportion to total deaths 1 in 17.75. This is the prominent symptom, and hence the term popularly assigned to a vast number of infantile diseases. During the first twelve months 54,822 are registered as from this cause; from the first to the end of the fifth year 10,610; and from the fifth to the fifteenth year 1433. After this age convulsive diseases are registered as epilepsy.

Lock-jaw.—Deaths 238. Males 172, females 66. There are registered 40 cases as occurring during the first month—doubtless instances of *trismus nascentium*, which Dr. Collins states occurred in 37 out of 274 deaths of children in the Dublin Lying-in Hospital; and Dr. Joseph Clarke records that in his time $\frac{12}{26}$ of the great mortality which then prevailed in that institution arose from this cause.

Epilepsy.—Deaths 1030. Males 100 to 68.57 females. The males predominate at every age except from 5 to 10 and 15 to 20, when females are most numerous. The disease proved most fatal at the ages from 10 to 15 and 20 to 40.

2. *Respiratory and Circulatory Organs.*—These amount to 178,919 deaths in the proportion of 100 males to 101.72 females. Compared to the total deaths they are 1 in 6.63.

Consumption.—This is by far the most fatal of the diseases of Ireland, exceeding even fever by 23,518 deaths. The numbers are 135,590. Males 100 to 113.07 females. To deaths from all causes the proportion is 1 in 8.75, and to those of other affections of the respiratory and circulatory organs 1 in 1.31: to epidemics in general as 100 to 281.17: to fever alone as 100 to 82.65. The proportion in the rural compared to the civic districts is 100 to 25.71. The most fatal age was from 15 to 30th year and then from the 30th to the 50th.

Inflammation of the Lungs.—Deaths 27,684. Males 100 to females 63.11. The most fatal period was from the 45th to the 60th year. It is obvious that the returns concerning this disease, and many others of the chest, as bronchitis, pleurisy, hæmoptysis, diseased heart, &c. &c. must be very imperfect, derived as they are from popular sources alone.

Asthma.—Deaths 10,594. Males 100 to 102.98. Compared with total deaths 1 in 112.07. Fatal period especially from 45 to 75. Here many diseases must of course become confounded under one name.

3. *Digestive Organs.*—These deaths amount to 123,828. Males 100 to females 90.98. Compared to all others they are 1 in 9.58.

Dentition.—Deaths 3,303. Males 100 to 87.67 females. More than 2000 occurred during the first year, and several deaths entered as convulsions were due to this cause.

Dropsy.—(Embracing anasarca as well as ascites) deaths 23,332. Males 100 to 87.67 females. This disease ranks thirteenth in frequency of all

registered, and next to consumption and fever, in the frequency of its occurrence in public hospitals, &c. Acute dropsy is not an uncommon affection of childhood in Ireland: thus, 532 deaths occurred during the first twelvemonth, and 4,442 between the ages of 1 and 15.

Marasmus.—Deaths 68,650. Males 100 to 105.81 females. Next to convulsions it is the most destructive affection of extreme youth; but differs from that disease in the fact of the female exceeding the male deaths at all ages after the first year. During the first five years it is 1 to 0.86 compared with small-pox: 1 to 0.43 with measles: 1 to 0.09 scarlatina; 1 to 0.59 hooping cough; 1 to 0.7 croup: 1 to 1.16 convulsions; and of the general mortality to the same period 1 in 7.67. This disease is a favourite one among the lower orders for the exhibition of several superstitious practices for its cure. Believing it to originate in the malevolent power of the fairy tribe, they employ various means for circumventing or propitiating this minute but mischievous race.

Urinary Organs.—The total deaths from diseases of these, amount to 3,137. Males 100 to 14.07 females.

Childbed, or its immediate consequences, puerperal fever, flooding and inflammation, proved fatal to 13,903—383 cases of which occurred in the hospitals, &c.; 1562 in the civic districts (or 1 in 149.91 of the entire deaths of the towns of or above 2000 inhabitants); and 11,958 in rural districts, or 1 in 76.23 of all the deaths of the minor towns and the open country. Of these deaths, 9 occurred at or under 15 years of age: 563 from 15 to 20: 6603 from 20 to 30: 5567 from 30 to 40: 1084 from 40 to 50: 42 deaths from 50 to 55: and 10 deaths from 55 to 60—1 death occurring at 66, the age of the husband then being 72 and the date of the contraction of the marriage 1780.

Rheumatism.—Deaths 3511. Males 100 to 80.97 females. It seems especially prevalent and fatal in rural districts. It is termed in the vernacular "splitting of the bones;" and "sweating houses, a rude species of Russian bath, are still in vogue for the cure of rheumatic affections, particularly in the western parts of Ireland." The great majority of deaths occurred between 45 and 80.

Scrofula.—"Were the history and symptoms of at least one half of the deaths from the sporadic diseases enumerated in the 671,960 deaths from these causes accurately known, it would perhaps fall short of the number of deaths that might be traced directly or indirectly to this taint; for tubercle, in one form or other, is one of the most frequent causes of death in this country. The deaths specified in the Census returns, "scrofula," "the evil," the "King's" or "running evil" amount to 3149, as 100 males to 64.01 females.

VIOLENT AND SUDDEN DEATHS.—These amounted in all to 44,445, as 100 males to 49.3 females; 1 in 25.92 occurring in rural districts, and 1 in 29.54 in civic districts. Compared to epidemics they are 1 to 8.57, and to sporadic diseases 1 to 17.13. *Burns and Scalds* destroyed 4349 persons. To the end of the fifth year the sexes are nearly equal; but from that age upwards the female deaths predominate. The great majority of deaths occurred from the twelfth month to the end of the twelfth year. Deaths from *drowning*, chiefly accidental, have amounted to 7072. Males

100 to 29.45 females. Deaths from *Intemperance* amounted to 1239, or 1043 males and 196 females. The intemperate abuse of spirituous liquors existed in Ireland, as in England, especially about 1724; and, some time after then, the places for selling liquors in Dublin alone amounted to 3500. from that time the habit of drinking continued to prevail in great excess in Ireland, and was followed by a black train of consequences, in the shape of deaths, diseases, and insanity. Death from this cause increased rapidly from 1831 to 1839. Happily a new order of things commenced, and has already borne its fruits. The places in Dublin for retailing liquors in 1841 only amounted to 1098, an astonishing decrease when we consider that 3500 existed a century ago with a so much smaller population. Much however remains to be done; for 13204 persons (7,544 males and 5,660 females) were apprehended for being drunk in the streets of Dublin during 1841. A less quantity of ardent spirits is taken by the lower orders in Ireland than by the inhabitants of the large manufacturing towns in England; but, as formerly observed by Dr. Speer, and now reiterated by Mr. Wilde, the injurious effects of these pernicious compounds are much increased by the former taking them in the morning upon empty stomachs, while the latter accompany their use with a considerable portion of solid nourishing food.

Executions.—There were 197 persons (188 males and 9 females) executed during the ten years: but a comparison of the first five years with the latter five years, shows that the annual average was 31 in the former and but 8 in the latter. The greatest number of executions occurred between the ages of 20 and 25.

Accidental Poisoning.—Deaths 139. Males 74, females 65. Proportion to violent deaths 1 in 319.74: and to general mortality 1 in 8,542.25.

"The *total deaths* from all sources for the entire kingdom registered from the Census returns, and which purport to be the deaths of the families from whom these returns were received, during the ten years ending 6th June, 1841, amount to 1,187,374 in the proportion of 100 males to 91.24 females: of which number 911,619 occurred in the open country, including the minor towns and villages, the sexes being 100 males to 91.01 females—234,173 deaths took place in the civic district, as 100 males to 94.05 females, and 41,582 deaths in the different hospitals and sanatary institutions, in the ratio of 100 males to 80.67 females. But as 39,950 of these deaths occurred in those hospitals which were situated in the towns that form the civic districts, it increases the mortality of these places to 274,123, or 1 in 4.14; and the remainder added to the rural districts in which the hospitals where they happened are located, raises its mortality to 913,251, or 1 in 7.7."

Upon the *proportionate mortality* we have the following observations.

"This mortality, which according to the first series of calculations, is nearly 1 in 55, and by the second, or that in the year 1840, is 1 in 57.19, may appear at first sight too small. It is, nevertheless, I am of opinion, but little short of the truth, especially when the circumstances of Ireland are considered in comparison with those of England, where, in the period from 1821 to 1831, the average annual mortality was but one in 51; and by the present more accurate system of registration, it varies from 1 in 47 in 1839 to 1 in 44 in 1841, and the average of the entire period during which the Registration Act has been in force, is as low as 1 in 45. In England, the Bills of Mortality for many years, and the lately published Sanatary Report upon the condition of the working classes in particular, show us that the ratio of deaths to the living, varies from 1 to 64 in agricultural

districts and the open country, as in Herefordshire, to 1 in 28.33 in the densely populated manufacturing towns, such as Manchester, &c. To establish, then, a fair analogy between the mortality of the two countries, taking England as the average, the proportion of Ireland which is analogous to, and its inhabitants similarly situated with, those of the working classes in Herefordshire, Dorset, or Cornwall, the healthiest parts of England, on the one hand—and the proportion of this country, or its inhabitants similarly situated with those of Leeds, Manchester, or Liverpool, the unhealthy parts of England, on the other, must be all taken into account: and thus comparisons may be formed between the relative mortality of the two countries. The late Sanatary Report exhibits conditions of the population in the mining and manufacturing districts of England, such as are not to be found in this country; the infantile mortality in the most unhealthy parts of Ireland, falls far short of that in some of the larger towns in England; and, lastly, the proportion of sudden or violent deaths is 745 in every 100,000 of the population in the latter, and but 61 22 in 100,000 on an average of five years in the former country. From an examination of the entire records of death, disease, and longevity, in this country, I am led to believe that, were an accurate registration effected, the *proportionate* annual mortality would not be found to exceed 1 in 52 or 1 in 53."

Of course Mr. Wilde's calculations can, in the absence of an actual registration of deaths, only be approximative; besides, the deficiencies in the return of the number of deaths already noticed, scarcely any still-born deaths were returned, which, at 4 per cent. for the 10 years, would amount to 90,000; and the instances were very numerous where even the hospitals could furnish no return of their dead. The Reporter has ably contended against these various difficulties, and the conclusions he has arrived at will probably be confirmed when a proper system of registration is established.

Coroners' Inquests.—A return of 20,334 deaths upon which coroners' inquests were held was obtained. Of these there were 3494 *homicides* of several varieties, all of which exhibit an annual average decrease of 74.6 during the last five years. *Suicides* 755, which have, during the last five years, increased 13 on the annual average. Nearly $\frac{1}{3}$ of these deaths were caused by hanging; about $\frac{1}{2}$ by drowning; less than $\frac{1}{10}$ by stabbing: somewhat more than $\frac{1}{11}$ by poison: more than $\frac{1}{17}$ by shooting; and scarcely $\frac{1}{31}$ by suffocation. There were 8072 *accidental deaths*, of which drowning gives 2410, burning 532, cold 495, suffocation 369, poison 68, lightning 38, unspecified 2811. In deaths caused by fire, females predominated; in all others, the males. Deaths from *immoderate use of ardent spirits*, amounted to 1129, *i. e.* 950 males and 179 females. In 12,762 inquests, medical evidence was had recourse to. "In 315 inquests held upon new-born infants, the Coroners' juries determined, without the examination of medical evidence, that 99 were still-born; while in 79 instances of accidental gun-shot wounds, medical evidence was had recourse to in 60 cases." A truly Hibernian mode of procedure.

Insanity and Idiotcy.—The returns embrace the deaths of such as were received into the different asylums (public and private) and jails during the 10 years: and of the living under confinement on 6th June, 1841. Of the 2,778 deaths returned (1528 males and 1250 females) the immediate cause of death is stated only in 2,161.

"The examination of this table shows us not only the vast preponderance of deaths from diseases of the nervous system, the most usual causes of insanity,

idiocy, and epilepsy, amounting to 791, but also of those affections that in an especial manner mark the *scrofulous* nature of lunacy. Thus the deaths from consumption, including, in all probability, marasmus and maniacal decay, as well as phthisis, number 601 alone: dropsy, symptomatic, in all probability, of tubercular disease of the abdominal viscera, 37; disease of the liver 9; and scrofula, so termed from some manifest exhibition of the affection, 32; in all, 1,470, or somewhat more than one-half of the entire deaths."

The proportion of males to females in the total deaths was 100 to 81. The greatest mortality prevailed between 20 and 50; and the average duration of life was 35 to 40 males, 40 to 45 females. Comparing the deaths and receptions in ten district asylums, the average mortality was, in the ten years, 20.45 males, 17.37 females, 19.02 on both. In the five public asylums of Cork, it was 26.18 males, 22.2 females, 24.22 on the whole. The Friends at Donnybrook gave but 5.18 per cent. In eight private asylums, the mortality averaged 12.02.

The lunatics under treatment in the different asylums and jails, on 6th June, 1841, amounted to 3 382 persons—of whom 333 were idiots, and 124 epileptics. The mean period of life was from 30 to 40. The educated persons were 2,088, the uneducated 1.294. Males 1,209 educated to 527 uneducated. Females 879 to 767. There were married 411 males to 504 females, and 1,325 males to 1,142 females unmarried.

Hospitals and Sanatary Institutions.—The Infirmaries or County Hospitals amount to 35, and the General Hospitals, situated chiefly in the cities and large towns, to 30. The following is the proportionate mortality from the various classes of disease. Epidemic, Contagious, and Endemic, 2,734, of which 2,526 were cases of fever. Diseases of Nervous System, 972. Respiratory and Circulatory Organs, 2,366. Digestive Organs, 2,041. Urinary Organs, 208. Locomotive Organs, 413. Tegumentary System, 325. Uncertain Seat, 1,776. It is almost incredible that 6,049 instances, or nearly one in every three cases occurring in these public institutions are returned as the cause of death not being known; nay, more inexcusable still, the records do not specify the *age* in 8,764 instances!

The total amount of deaths in 83 Fever Hospitals from which returns were received, amounted to 15,988. Males 100 to 94.5 females. "but, from the defective state of Hospital Registries in Ireland, this falls far short of the actual number."

Lying-in Hospitals.—Eleven printed returns of deaths of 394 mothers, and 2,258 children, but in 2.249 the cause of death of the latter not returned, many, however, being still-born. The ratio of still-born was 6.87 per cent. This is not the average ratio throughout the country, which is not more than four or five per cent., but the maximum occurring in crowded cities and public institutions.

The number of patients in the Hospitals and Lunatic Asylums, 6th June, 1841, amounted to 8,652, as 100 males to 97.71 females: their proportion to the entire population of Ireland being one in 944.88.

Sanatary Report on the City of Dublin.—This contains a map of Dublin,

coloured and shaded in different manners so as to show at one view its healthy and unhealthy localities; and must be of great utility to all engaged in investigating the condition of that city. Mr. Wilde has classified the whole of the streets, and distinguished each class by its characteristic colour, and the various intervening spaces by different shading. He has examined the total mortality of Dublin, for the 10 years, amounting to 66,722, and distributed it over its approximate localities, not for the purpose of arriving at the actual mortality, which the defectiveness of the returns prevented, but at the relative healthiness of the various localities. In the most fashionable and healthy parts of Dublin, the deaths were one in 122.2, while in the lowest and most wretched parts they varied from one in 37.8 to one in 43.8.

Among other interesting investigations contained in this department of his Report, Mr. Wilde enters into a comparison of the prevalence of mortality, as ascertained by cemetery returns and meteorological observations, in certain seasons of the year.

"From an examination of this table, which is the average of two years, we learn that the months of May, June, and July, are the healthiest, and next those of August, September, and October: but, in fact, those two periods of Summer and Autumn are so analagous, that, as far as health and mortality is affected, the year divides itself into two equal periods by the months of May and November, the mortality of the first being to the second as 100 to 137.16. December, January, and March are the trying seasons; and the deaths of children under five years of age predominate in November, December, January, and March. We also learn, from his accurate registration, that the sexes vary with the seasons, the females being in proportion to the males, least in Autumn and Winter, and greatest in Spring."

We repeat, that this Report is a valuable contribution to the Vital Statistics of the Sister Kingdom; and we hope that the Legislature will place, ere long, in Mr. Wilde's hands, by means of a General Registration Act, the power of corroborating or correcting its various inferences.

ON DYSMENORRHŒA AND OTHER UTERINE AFFECTIONS IN CONNEXION WITH DERANGEMENT OF THE ASSIMILATING FUNCTIONS. By *Edward Rigby*, M.D. Physician to the General Lying-in Hospital, &c. &c. 8vo. pp. 138. Renshaw. London, 1844.

IN a short and modest preface, Dr. Rigby invites a more careful attention to these uterine derangements than the generality of practitioners are disposed to give them. He thinks they are too often looked upon as local affections, when they are really dependent on the general health. He fears that some of the symptoms he has described, and the remedies he has proposed, may appear fanciful; but requests his readers to suspend their judgments until they give a fair trial to both. Dr. R. has had am-

ple experience in these matters, having enjoyed the privilege of attending the Uterine Cases of St. Thomas's and Bartholomew's Hospitals.

The first chapter, consisting of 36 pages, is dedicated to various observations on those numerous disorders resulting from impaired digestion, imperfect assimilation, bad chylification, and vitiated secretions. In this chapter many authors are quoted; but Dr. Prout's works furnish the chief materials. There is also some speculation in this chapter, and a great deal of transcendental humorology, far in advance of practical medicine of the present day.

The second chapter comes nearer the specific subject of the treatise—namely, to "uterine affections intimately connected with, and, in a great measure, dependent on, derangements of the assimilating processes." These are to be looked upon (and they are looked upon by all rational practitioners) as merely "the local phenomena of a general condition of the system." This general condition, our author thinks, is mostly dependent on a rheumatic or gouty diathesis.

"In applying to these affections the term uterine rheumatic gout, I wish it to be understood that I do so in default of any more appropriate term; but as this expression renders my meaning tolerably intelligible, I shall be satisfied to use it for the present." 37.

These uterine affections are chiefly of a congestive or inflammatory nature, attended with local vascular excitement, more or less acute, and exhibiting the chief features of inflammation, as heat, swelling, redness, and pain—or of a chronic form, with venous engorgements, turgescence, and hardness, and ultimately change of structure.

"The first form is more sudden in its attacks and recessions, more erratic in its movements; the latter more gradual, but fixing on the part with a firmer hold, and relinquishing it with proportional difficulty. The acute form is usually seen in connection with dysmenorrhœal attacks, or with the uterine excitement which is generally observed in such cases at the half-way time between the menstrual periods. The other is mostly attended by chronic leucorrhœal discharge, and chronic or subacute inflammation of the cervix uteri, followed by induration and organic disease. It may also be observed, that if not arrested by proper treatment, the acute sooner or later passes into the chronic form, in which case they may be looked upon as different stages of the same disease, and therefore brought under the same description. It may, however, be stated that the majority of these affections are of a chronic or subacute nature; whether so originally, or from the circumstance that the change from the acute to the chronic form frequently takes place at an early period of the disease, is not very easy to determine." 38.

These symptoms our author has generally found to be connected with obstinate dyspepsy, and occasionally accompanied by rheumatic gout, ending in dysmenorrhœa.

Dr. R. is unable to determine the precise circumstances that determine the formation of those fibrinous exudations that are occasionally thrown off in dysmenorrhœa. There is generally in such cases some inflammatory action in a neighbouring part, as the ovary.

"If the ovary be the part affected, the patient suffers much pain in one or both groins, increased on pressure, or by putting the integuments of the part on the stretch in assuming the erect posture. It is greatly aggravated at each

menstrual period, coming on for one or more days before the appearance of the discharge, and attended with much pain, throbbing, and sense of heat and swelling in the part, and generally accompanied by considerable irritation of the bladder or rectum. These are the ordinary phenomena which attend a paroxysm of this disease, but accompanied, as is seen, with symptoms of more than ordinary local congestion, and attended with rheumatic or gouty symptoms in other parts. In the more sub-acute or chronic form, the precursory stage appears to consist of that series of changes produced by increasing derangement of the assimilating functions by which the circulation gradually becomes vitiated, and local disease appears as the product of general disorder. The bowels are torpid, requiring medicine to render them sufficiently active, the evacuations are unhealthy and offensive, the tongue is furred, there is a disagreeable taste in the mouth, the breath is impure, the appetite is capricious and variable; food even in small quantity produces much troublesome distention and flatulence, the urine is generally loaded with lithic deposits, the skin is dry and rough or moist and clammy, the muscles are flabby, the limbs ache on the slightest exertion, the extremities are cold, the face is pale and sallow, there is a bilious headache across the forehead and eyes, and much depression of mind." 41.

In such cases the vagina often feels full, swollen, and like a nostril stuffed by a cold; being very sensitive to the touch, rendering the motion of a carriage or even walking painful. The disease is remarkably uncertain in its attacks—going off and coming on very suddenly.

"On examination, the labia and nymphæ are usually found swollen and flabby, and copiously moistened with a thick, creamy, albuminous discharge. Occasionally, however, they are hot and turgid, the vagina is in a state of soft, flabby tumefaction, its parietes in close contact with each other, and its calibre much diminished by the swelling. The mucous membrane is swollen, and shows evident marks of venous congestion; it is everywhere thickly covered with the above-mentioned white or yellowish-white discharge, and not unfrequently the canal is so exquisitely sensitive as to render the introduction of the finger very painful, and sometimes even impossible. In the earlier periods of the disease the uterus does not always appear to be the seat of much suffering during the menstrual periods, the os, cervix and inferior portion feel somewhat swollen and tense, but not particularly tender; how it is in this respect *during* a menstrual period, especially when complicated with dysmenorrhœa, I have not had the opportunity of judging, but a state of more or less vascular and nervous excitement may be presumed to exist then." 43.

One remarkable phenomenon, which we have occasionally observed in these cases, is a discharge of air from the vagina, apparently secreted from its mucous surface. The urine shows strong indications of the gouty diathesis, being loaded with the lithates. The specific gravity is greater than usual, and urea is in excess. The patients are usually hæmorrhoidally disposed. The mucous secretion of the rectum is augmented, and the fæces, if firm, are covered by this secretion. Flatus is very apt to collect in the rectum, and be discharged.

"The most prominent feature in the above enumeration of symptoms is the congested state of the pelvic vessels, which, although of transitory character at first, soon becomes more and more permanent, until at length that state of sub-acute or chronic inflammation is established which sooner or later must end in organic disease. The constitutional symptoms become greatly aggravated, the chylopoietic functions are nearly suspended; emaciation and great debility follow, and the face assumes the cachectic, cadaverous appearance which is generally

looked upon as indicating structural mischief. The local symptoms resemble those of chronic leucorrhœa, with inflammation of the cervix uteri. The pain of the back becomes more decided, and is less relieved by assuming the recumbent posture; the bearing-down when she is erect is increased; severe pain is produced by sitting down upon a hard seat and by pressing up the perineum against the inflamed os and cervix uteri, which being swollen and heavy from congestion, descend lower into the pelvis than usual. From a similar reason the evacuation of fæces, especially when the bowels are somewhat constipated, is attended with pain nearly in the same direction, the rectum during their passage pressing against the os and cervix uteri. Upon examination this part will generally be found hot, engorged, throbbing and tender to the touch of the finger; there is more or less leucorrhœa, which, although it may have been creamy and albuminous in the commencement, is apt, after a while, to become watery and discoloured. Slight movement, and even assuming the erect posture, or the warmth produced by sitting on a soft cushioned seat, are sufficient to bring a considerable aggravation of her sufferings. The catamenia become more scanty and lose their natural colour; at length they cease, apparently more from the depressed state of the system being no longer able to afford this periodical evacuation than from functional inability on the part of the uterus to secrete it. Darting pains, of an altogether different character to what she has yet perceived, now make their appearance; at first but few in number and only at long intervals, but by degrees they increase in severity and frequency; the discharge becomes more watery, the os and cervix uteri more painful and indurated, the general health more broken down, the stomach more irritable; in fact, symptoms threatening the commencement of scirrhus are but too distinctly established." 48.

The urine, in time, undergoes great change. Its specific gravity decreases—it becomes pale—and soon shows albumen—consisting of little else than water and serum of the blood, the function of the kidneys being nearly suspended. The train of symptoms is not, of course, always identical with the above account. They vary from time to time.

"In a large proportion of these cases of uterine gout there have been co-existing evidence of the gouty or rheumatic-gouty diathesis in other parts. Many patients have had inflammation and swelling of the knees, ankles, and also the smaller joints of the fingers and toes; others have suffered on some previous occasion from rheumatic fever, from which they dated all their complaints. In some the local symptoms have been arrested, but they continued to suffer from frequent flushings and sense of burning heat, both in the extremities as well as in the trunk, (particularly in the abdomen,) intense headaches, and considerable derangement of the stomach, liver and kidneys. I think I may say, that in almost every instance the pains of the limbs are a very constant symptom, and, in some instances, form a prominent feature in the patient's sufferings." 52.

But it is now time to turn from symptomatology and pathology to therapeutics. As the local affections are no more than part of a general diathesis, so constitutional treatment offers the only chance of cure. The remedial process is necessarily slow, and the patience of the sufferer is often worn out before the remedies have had sufficient time for their operation. The uterus, from its extensive sympathies, soon becomes the cause of various affections of other parts, though not the primary seat of disease itself. "It is upon the stomach, liver, and bowels that we must make our early attacks; for, until their functions have been duly regulated, little hope can be expected of a favourable progress." Our first step, then must be to rouse these organs into greater activity.

"One active dose of calomel, of from five to eight grains, followed by a mild purge the next morning of rhubarb and magnesia, &c., will frequently produce a degree of general relief which could scarcely be credited. The tongue is cleaned, the breath has become pure, the colour improved, the limbs active and free from pain, the extremities warm, and a marked relief to the pain, tension and bearing down in the pelvis, which before had rendered her almost helpless." 55.

Leeches to the rectum Dr. R. considers more effectual than to the vagina itself, and greatly facilitate the action of alterative and laxative medicines. The first application of leeches to the hæmorrhoidal vessels is generally not so effective as the subsequent applications.

"The sense of congestion and fulness about the pelvis, the bearing down pain of the uterus, the throbbing and sense of swelling about the rectum and vagina, the peculiar and painful closed-up feel of this latter canal, and the inability to move about or even sit down without pain, all disappear, and leave the patient for a time entirely freed from her sufferings." 59.

The time of application ought to be just before the expected catamenia, or equi-distant between the two periods. If the pain be seated about the cervix or os uteri, Dr. Locock's tube is a very useful instrument in facilitating the application. The vagina may be syringed with decoct. pap. alb. and if there be much discharge, the liq. plumb. diacet. may be added. If the passage be very irritable, oil and liq. Batlei may be applied by means of a camel's hair pencil. After the dose of calomel, its action may be sustained by blue-pill or Plummer's pill at night, with a magnesian saline aperient in the morning, while nitro-muriatic acids may be exhibited internally, with or without vegetable bitters.

"The attention of the practitioner must now be devoted to the more specific treatment of the case. If the circulation be plethoric and strong, the urine scanty, high-coloured, with considerable excess of lithic acid and lithates, colchicum in the form of the acetous extract, with extract of hop or henbane, may be given at night, or night and morning, and some mild saline with sp. ætheris nitrici occasionally during the day.

"The salines, as recommended by Dr. Prout, are well worthy of attention; they not only diminish the disposition to the formation of lithic acid during the processes of primary assimilation, but allay the irritable state of the digestive organs, and the urine becomes increased in quantity and more healthy, in its characters." 62.

The diet should, of course, be simple and the hours regular. Animal food once a day is quite sufficient. Ablutions, at the temperature of the atmosphere, will generally be borne, and frictions afterwards will be very beneficial.

When the disease proceeds from the acute to the chronic form, the methodus medendi must be modified. We are unable to afford space for more than one other extract.

"Where the disease assumes the rheumatic or rheumatic-gouty character, we usually find it associated with less power of general circulation, and with local symptoms of less active character. Guaiacum and iodine are valuable remedies in these affections, either separately or combined. The tinctura guaiaci ammoniata may be taken in milk night and morning; or 10 grains of pulv. guaiaci and of magnes carb. every morning, and from 2 to 5 grs. of potass. iod. with extract of hop or henbane at night; or if it be deemed unnecessary to use

the guaiacum, the potass. iod. may be given two or three times a day in sarsaparilla with liq. potassæ, and the bowels regulated by an alterative or laxative pill at night; or, if it be desirable to promote disphoresis, by a dose of Dover's powder.

"There are few remedies which keep up a healthy action of the liver so well as the taraxacum, especially when preceded by a dose or two of mercurial medicine. In most of the affections under consideration, where it is important to maintain this function in due activity, and yet where the *constant* use of mercurials is highly inexpedient, taraxacum becomes a valuable adjunct. It is prepared under a variety of forms, but I prefer the extract as being the most certain and convenient; half a tea-spoonful at night, dissolved in a little warm milk, forms a by no means disagreeable cocoa-like drink; or it may be taken with milk and lime-water if necessary. Besides its ordinary effect on the liver, and therefore indirectly upon the bowels by supplying them with healthy bile, I have reason to think that it also acts upon the skin like sarsaparilla, and for this purpose may sometimes be advantageously combined with it." 69.

A good many cases are narrated by our author, in illustration of the foregoing principles; but these we need not introduce here. We have taken much pains to concentrate the chief points of theory and practice in this volume, which is full of valuable materials, and is evidently the result of close observation, ample experience, and sound judgment. Dr. Rigby's work is one that we can most conscientiously recommend to all classes of our professional brethren.

MANUEL D'ANATOMIE GÉNÉRALE APPLIQUÉE A LA PHYSIOLOGIE ET A LA PATHOLOGIE. Par *L. Mandl*, &c. &c.

Manual of General Anatomy applied to Physiology and Pathology. By *L. Mandl*. Paris. Baillière, 1843.

THE importance of a knowledge of General Anatomy to the scientific medical, and surgical practioner, is at the present day so universally admitted, that to say more on the subject seems entirely unnecessary. In the preceding number of this Journal, we took the opportunity, when reviewing a work on General Pathology, of entering somewhat fully into the great importance of a knowledge of that branch of medicine. We there endeavoured to point out the advantages which must result to the practitioner from those general views of disease, which an acquaintance with general principles must present to him, and the vast superiority which a practitioner, furnished with such general principles, must possess over the man who, confined within the narrow precincts of mere specialities, is obliged, when called on to treat a case of disease, to have recourse to his nosology, in order to find a name for it, before he can bring himself to prescribe the proper treatment. The arguments we then adduced to prove the great utility of a knowledge of general pathology, will hold equally strong, *mutatis mutandis*, in establishing the vast importance of General Anatomy, as a branch of medical study. Before we commence our analysis of the work now before us, we beg leave to say a few words on the subject of General Anatomy and its peculiar objects.

The study of Special or Descriptive Anatomy, which must precede that of General Anatomy, shows us that many of the circumstances which belong to any one organ, belong at the same time to several organs, and that thus several individual circumstances are common to many organs. Of the membranes, for instance, of which descriptive anatomy shows us the stomach is composed, some are common to it and to the intestines, to the bladder, to the uterus, &c. In like manner, in respect to any one of these membranes, a careful examination of its structure shows that, in many points, its organization is exactly similar to that of all other membranes—an extension of this view leads to further important and interesting results. All the arteries of the body, whatever their situation or size, are found to be composed essentially of the same substances, disposed in nearly the same order and form—the same may be said of the veins. All the absorbent vessels, all vessels of every kind—all the bones, muscles, and nerves—the whole external covering of the body, widely as their various structures differ from each other, present no material difference, as far as regards the organization of each particular class. Hence, various organs of the body are disposed into what are called common systems, which common systems are said to consist of common tissues. Thus, all the vessels are collected and arranged under one common class, called the vascular system, and so on. The material that enters into the composition of each of these systems, consists of a substance of a peculiar nature; but as this substance is more or less generally diffused over the whole body, entering as a constituent element into the various organs, it is termed a common tissue. Now, as the various tissues constituting the body, differ from each other with respect to their vital properties, and as diseases are nothing but alterations of those vital properties, it is at once evident that an acquaintance with the tissues and their vital properties is indispensable to an accurate knowledge of the diseases with which such tissues may be effected. We know that in every organ composed of several tissues, one tissue may be impaired without any disorder of the others—for instance, a single tissue is frequently diseased in the eye, whilst the other tissues entering into its structure continue healthy. It is Bichat who has said, the more deeply we study diseases and their phenomena after death, the more forcible and impressive must be our conviction of the necessity of considering local diseases, not with respect to the viscera, the whole of whose structure they do not attack, but with respect to the different tissues which are separately affected. For the distinction of the animal body into separate kinds of texture, we are mainly indebted to the labours of Malpighi, De Graaf, Ruysch, and several others. All these persons, however, confined their attention to anatomy and physiology. It is to the Hunters and to Cullen we are principally indebted for the application of this distinction of tissues to pathology.

A still more successful effort to apply Histology to Pathology, was made by Dr. Carmichael Smith, in 1790. Some years after, Pinel, in his celebrated Nosographie Philosophique, made the distinction of the membranes and other animal tissues the foundation of his pathology. A little time after Bichat, in his Traité des Membranes, and subsequently in his Anatomie Generale, gave the most perfect arrangement, and most comprehensive view of the different organic textures of the human body, that had

yet appeared. The use of the microscope has established a new era in the study of General Anatomy, or, as it may be now styled, *Minute Anatomy*, or *Histology*. Bichat and his predecessors contented themselves, for the most part, with analyzing the several organs into the various tissues into which they were capable of being divided. By the use of the microscope, however, a great deal more has been attempted, viz., to unravel the very tissues themselves into their minutest structure. And no doubt much good has resulted to physiology, and much, it is hoped, will result both to physiology and pathology, from this minute investigation of the various structures and elements of the body. On this subject, however, we shall take the liberty of making a few remarks. The men who are now so zealously, engaged in prosecuting microscopical observations, should remember, that the present is not the first time the microscope has been employed for anatomical purposes; they should bear in mind what has been the fate of the discoveries of the microscopical observers, with some few brilliant exceptions, and, holding this in remembrance, they would do well to consider what may have led to such a fate. All that the microscope can do is to discover particular facts; now the discoveries of particular facts, which are the immediate result of observation, are in themselves uninteresting and valueless, unless they are combined so as to lead to some grand general result—the mere isolated facts of minute anatomy, or of botany, or of any other science—can never be available in advancing such science, unless the reasoning powers be exerted so as to give them a shape and form, and unless the judgment be employed so as to ascertain their imports and relations, and the place they are fitted to hold in that department of science to which they properly belong—it is one thing to be a microscopist, and another a physiologist—no microscope, however good, or however cleverly it may be used, can afford a dispensation from the labour of thinking.

Whatever credit is conveyed by the word "discovery," is well deserved by those who skilfully select and judiciously combine known truths, so as to elicit important and hitherto unthought of conclusions—theirs is the master-mind—whereas, men of very inferior powers may sometimes, by immediate observation, discover new facts empirically, and thus be of use in furnishing materials to the others, to whom they stand in the same relation, as the brick-maker and stone-quarrier to the architect. The microscope should be to physiology what the telescope is to astronomy. We know that by means of the telescope Galileo discovered the Satellites of Jupiter—but by the application of mind to this isolated fact a grand principle in physics was attained, viz., that the propagation of light is progressive and not instantaneous; by a further application of mind these little bodies have been converted into very pretty little chronometers, and so employed for determining longitudes—one instance more of the application of mind to an instrumental discovery. Dr. Bradley, by means of the telescope, ascertained that the fixed stars changed their places in the heavens in the course of the year, that is, that the fixed stars were not at all *fixed*—this was a puzzler and would have remained so, had he not set himself to work in order to account for it. After many fruitless efforts, the happy idea occurred to him of combining the effects of the progressive motion of light, ascertained by Galileo, with the motion of the earth in

its orbit, and he found to his great delight, not only that there was no anomaly in the thing, but that the phenomenon of this apparent motion in the stars afforded one of the most satisfactory arguments in proof of the Copernican system. Here we have conclusive evidence of the indispensable necessity of employing the powers of the mind, when we wish to make mere instrumental discoveries available to science. What Galileo and Bradley did in their departments of science, we say to the anatomical microscopist, "go thou and do likewise." Isolated facts, however numerous, can never form a science. It is only by the mental operation of comparing, combining, and abstracting, that a science can be made out of this otherwise *rudis indigestaque moles;* when this is done, and only then, can it be truly said,

Mens agitat molem et magno se corpore miscet.

In the first six Chapters of his work Dr. Mandl lays down certain general principles regarding the physical and vital properties—Chemical Composition—the various structures and textures of the body, which, however useful and necessary in an elementary work on general anatomy, we shall pass over, as not likely to prove interesting to our readers. We shall therefore pass on to the 8th Chapter, wherein he considers the Development, Increase, and Regeneration of the Organic Systems.

GENERAL LAWS OF DISTRIBUTION.

The manner in which the organic systems are distributed in the human body, is subject to certain generalities, usually called laws. These laws drawn up into form by anatomists, have not always been the expression of the truth: the imagination, preconceived ideas, and material errors, have frequently laid down laws of a very fragile character. The exact knowledge of these generalities is much more difficult than is supposed at first; we shall confine ourselves in this place to the enumeration of the best ascertained generalities regarding the distribution of the organic systems. The body is constructed symmetrically. The most perfect is that of the two sides of the body or the *lateral symmetry.* But this analogy may be demonstrated also either between the different portions of an organic system, or between the different regions of the entire body, as well between the superior and inferior part of the body, which constitutes *successive symmetry*, as between the anterior and posterior surface, or the *perpendicular symmetry.* It may be remarked, in general, that this resemblance is never absolute; one side usually has more or less advantage over the other. The systems presenting most symmetry are the nervous, osseous, fibrous, serous, muscular, and glandular systems; there is less of it in the vascular, and least in the serous system. The organs of animal life are arranged more symmetrically and more uniformly than those of organic life. Bichat stated positively that the organs of animal life are symmetrical, whilst those of organic life are not so; Meckel, however, proved the incorrectness of this opinion. The different similar and elementary parts composing an organic system are placed most frequently in a spiral line. We see this law exemplified in the vertebral column, which describes

several curves. The division of the systems adopted by the author is founded on their distribution. First we have systems diffused over the entire body, and forming an uninterrupted aggregate, and others which appear only in certain parts; hence the division of the systems into two classes. Three systems compose the first class. The systems of the second class are characterized by the presence, in greater or less abundance, or by the absence of the systems of the first class, and especially of nerves distinctly visible, and of capillary vessels. The following is the classification adopted by the author:—

Classification of the Organic Systems.

A. General Systems, diffused uninterruptedly over the entire body.
1. Cellular System.
2. Nervous System.
3. Vascular System.

B. Particular Systems existing only in certain parts of the body.

a. Destitute of nerves and of capillary vessels.
4. The System of the Cutaneous Appendices.

b. Destitute of distinct nerves and of large capillary vessels, visible to the naked eye.
5. Adipose System.
6. Serous System.
7. Fibrous System.
8. Cartilaginous System.
9. Bony System.

c. Provided with distinct nerves and large network of capillary vessels.
10. Muscular System.
11. Glandular System.
12. Cutaneous System.

FORMATION OF THE ORGANIC SYSTEMS.

The manner in which the tissues and systems of the human body are formed may be studied at two very different epochs: during fœtal life and after birth. In the fœtus, *the development of the organic system* may be examined as a whole, or *the development of the elementary parts* constituting it, may become the subject of examination. In the body considered after birth, we may investigate the manner in which *the increase, decrease* and *regeneration* take place. By *development of the organic system* is meant the formation of the system in the fœtus. Every development in which isolated parts are produced, supposes an organizing base which contains the germ; this base is called *blastema*. Every tissue has its particular blastema, the development of which, in the superior animals, depends on the development of the entire body.

All the systems do not appear at the same epoch. The vessels and nerves are the first parts delineated in the blastema; the intestinal canal commences its formation nearly at the same time. The organs of the senses and those of generation present themselves at a more advanced period. Then the muscles, bone, and teeth appear, and last of all the cutaneous system with the tegumentary appendices. At first, the entire

body is whitish, and even transparent; the colour of the organs is developed only gradually. In the first period of their existence the systems are characterized by very great softness; it is only by degrees they assume the normal consistence. The traces of the primitive formation continue in some parts during the entire course of life; whilst in others no trace whatever can be discovered. According to Serres, every organ is primarily formed of two lateral halves tending to unite on the median line. This is the law of centripetal formation. The liver commands in some degree all the evolutions observed in the viscera of the abdomen and chest. Placed in the middle of these two cavities, it is by it and around it that everything is arranged and disposed; its position assigns their position to the other viscera. The opinion that the degrees of development which the human body passes through from its first origin to the moment of its perfect maturity, correspond to constant and permanent formations in the animal series, has now been proved to be false.

CELL THEORY.

The author next proceeds to examine into the way in which the elements of the different systems take their origin, grow, and become transformed, so as to constitute the different tissues of the human body. This branch of anatomical study is mainly indebted for its present state of comparative perfection to the microscope. The origin of the cells in plants—the manner in which these become transformed, so as to compose the different elementary parts, &c. become subjects of great attention—this circumstance tended considerably to facilitate the study of the development of the tissues of animals. Raspail was probably the first who insisted on the identity of development in the vegetable and animal tissues, by establishing his spiro-vesicular theory. Everywhere, he says, a mother-vesicle produces other internal vesicles, attached by the hilum, and capable in their turn of becoming mother-vesicles. The vesicles become transformed, as in plants, into fibres, spines, &c.; the number, the position, &c. of the internal spirals, &c. produces the different organs. Dutrochet also insisted on the analogy existing between the development of the two organic kingdoms. In his first researches into histology, Valentin observed that the primordial mass of all the tissues was constituted by peculiar granules found in a transparent gelatine; he pointed out the difference of these granules in the serous and mucous structures at the period when these are being separated in the blastoderm. In the vascular system he found large globules, or cells, which, from their form and aggregation, he compared to the cellular tissue of plants. He also called attention to the analogy in form between cartilage in a state of ossification, and the cellular tissue of plants. Valentin described the round cells of the globules and the intercellular substance placed between them in the chorda dorsalis of young embryos. Simultaneously with the zoologists, the botanists also directed their researches to the development of plants. J. Brown, in 1831, made mention of the nucleus of the cells of plants; Schleyden followed up these researches, and established a theory of which we here subjoin a resumé. In the gum of plants there appear at first some corpuscles, either mucous, or others somewhat larger, with more distinct contours. Around these

corpuscles there are formed granulations which, with the enclosed corpuscles, Schleyden has called *cytoblasts*. The cytoblasts enlarge; when they have attained their full size, there arises at one of their surfaces a very thin transparent vesicle: this is the young cell, which soon becomes more consistent and larger, so that the cytoblast appears in the form of a nucleus; this nucleus is subsequently absorbed. Immediately after the publication of Schleyden's works, Schwann applied himself to the study of the animal tissues: he completed the analogies resulting from the observations previously cited, by stating that the primordial gelatineous mass of the tissues consists in cells, and that the bodies found in them are nuclei. One sole principle of development, says Schwann, *scil.* the cellular formation, is the basis of all the organic tissues, however different they may be: that is to say, Nature never collects the molecules immediately into a fibre, a tube, &c. but she always at first forms a round cell, and then transforms it, where it is necessary, into different elementary formations, such as we see in the adult state. The formation of the elementary cells is accomplished in all the tissues, with respect to the principal points, according to the same laws. The ulterior formation and the transformation of the cells are different in the different tissues.

The fundamental phenomenon of the formation of the cell is thus described: At first there exists an amorphous substance, the *cytoblastema*, which is found in cells already existing or outside them. Generally, small spherical corpuscles, *nucleoli*, appear first in the cytoblastema; a substance of greater or less thickness and very finely granulated, is then precipitated; and including one or two of these corpuscles, it forms small round or oval masses, spherical or flattened; these are the nuclei of the cells. These nuclei are small opaque, granulated bodies, seldom smooth or transparent, being from $\frac{1}{100}$ to $\frac{1}{300}$ of a millimetre in diameter; they are solid or hollow: in the latter case they are constituted of a thin, smooth, amorphous membrane, and their contents are limpid or finely granulated. Around these nuclei the cells form in the following manner: there is precipitated at the external surface of the nucleus a layer of a substance consisting of very fine granules, and different from the cytoblastema which surrounds it. This layer is not at first very distinct: but, by degrees, it undergoes changes by intus-susception, it becomes more distinct and more solid, and its external surface is changed into the membrane of the cell. This membrane at first surrounds the nucleus; but by little and little it becomes enlarged, and in the different cells there is developed a substance of a different chemical composition: the nucleus remains attached somewhere to the inner side of the membrane; but at a later period, it generally disappears. The cytoblastema is deposited either outside, or within cells; the new primitive cells are formed, consequently, either in cells which already exist, or outside in the intercellular substance. With respect to the place where the new cells are formed in a tissue, the following is the law: They always appear at the point where the nutritive liquid penetrates in the first place into the tissue. Hence the formation of new cells, in the unorganized tissues, can only take place at the points of contact with the organized substance; whilst, in the tissues completely organized, where the blood is distributed through the entire tissue, it may take place through their entire substance. Schwann distinguishes in the cells two sorts of

phenomena: the plastic and metabolic phenomena. The former are manifested by the formation of the cells in the cytoblastema; the latter, called forth by the metabolic forces, are the chemical transformations of the contents, produced by the solid parts of the cell, that is, by the nucleus and membrane. The way in which the cells become transformed into the elementary parts of the different tissues varies very much. The most important differences are the following:—1st, elongation of the cell into fibres, resulting probably from the circumstance that several points of cellular wall grow more strongly than the others; 2d, the division of an elongated cell into several isolated fibrils; 3d, the fusion of several simple or primary cells into a secondary cell. Schwann divides the tissues, according to the development of their elements, into five classes:—I. Individuality of the cells. 1st, isolated cells. *a.* In the liquids: globules of the blood, mucus, pus, and lymph. *b.* In the tissues: ganglionic corpuscles. 2d, agglomerated cells: pigment, fat, horny tissue, crystalline. II. Fusion of the cells. 3d, re-union of the membranes which belong to the cells; individuality of the cavities: cartilaginous, osseous, dental tissue. 4th. The cells become elongated and form fasciculi of cylindrical fibres: cellular, fibrous, and elastic tissue. 5th. Complete fusion of the membranes and cavities which constitute the cells: muscles, nerves, capillary vessels. Valentin states moreover that, similar to that which takes place in the vegetable kingdom, there is seen in the animal kingdom a granulated nucleus, containing one or more corpuscles, surrounded by an envelop (cell) more or less independent; this latter consists in a separate wall, and distinct contents. All the tissues, however heterogeneous they may be in their state of perfect development, result from this fundamental formation. The different ways in which this development takes place, are referred to nine fundamental types. Their enumeration we shall here omit. So important and extensive is this cell-formation, that according to the observations of J. Muller, Henle, and Valentin, it presides also over all new pathological formations. It is proved that all their fibres arise from cellular fibres. The general primary form then of all the tissues is the cell, a product of the transformation of the nucleus, whose existence is preceded by that of the *nucleolus*. The young cells, that is, the cells in the early periods of their existence, are soluble in acetic acid, whilst the nuclei remain insoluble. The author here subjoins the results of Henle's observations regarding the metamorphoses of the nuclei, and concludes this part of his subject with some reflections on the cell-theory. This theory he shows to be founded by analogy on Schleyden's observations regarding the structure and development of plants, observations too far from being adopted by all botanists. However, the truth of Schleyden's remarks would prove nothing in favour of this assumed identity in the structure of animals and vegetables. The author thinks that the advocates of the cell-theory have sometimes allowed their imagination to be carried away by certain appearances; the observations have been interpreted in a forced and arbitrary manner, whilst other facts have been passed over in silence which were found to be opposed to the ideas already taken up. There is not a granule, which, under the eyes of some observers, has not been transformed into a *nucleus* or *nucleolus;* at other times, globules of fat have been taken for cells, with the nucleus absorbed. He next ex-

amines the principles on which the cell-theory is based. To the question whether the microscopical elements of the animal tissues are cells, he answers in the negative. The term *cell* should be applied only to elementary parts which admit a clear distinction between parietes and contents. Now this occurs very rarely in the animal tissues. In most instances we meet lamellæ or solid corpuscles penetrated with an organic liquid. This liquid is not collected in an empty space within the corpuscle, since no such space exists, but it penetrates equally all its organic woof. So that the name of cell is inapplicable to most of the elementary parts.

The most general process by which the elementary parts become developed are, according to the author, as follows: The liquor sanguinis (le liquide sanguin) transuding through the parietes of the vessels, occasions the coagulation of the fibrin dissolved in this plasma. The fibrin is coagulated in the form of small corpuscles, to be hereafter described under the name of *fibrinous globules*. These corpuscles become the centre of a new formation; a solid matter is thrown down gradually around these corpuscles, which in this way become surrounded by a solid substance different from that of the fibrinous globule. This matter proceeds from the coagulation of the blastema or primary organizing matter. Attraction takes place chiefly in two directions, in length and breadth; the thickness is inconsiderable. In this manner the primary corpuscle, the fibrinous globule, is transformed into a new element, two dimensions of which have greatly the advantage over the third. This form is so much the more remarkable, as the same law is also observed in the dimensions of the entire body. The new elements are either lamellæ or corpuscles; they present the primitive corpuscle lodged in their substance, sometimes on their surface. From its position we shall call the latter the nucleus of the lamella or corpuscle. This nucleus may still enlarge after the formation of the lamella. It was stated that the primary corpuscle, the nucleus, in the theory of cells, arises from the coagulation of the transuded liquor sanguinis. But we may admit that a similar coagulation may also take place in the midst of the blastema: the corpuscle, produced from this coagulation, would in its turn become a centre of new attraction. The attraction around the primitive corpuscle cannot surpass certain limits, and the matter thrown down becomes more and more consolidated, and shortly becomes quite distinct from the blastema in which it is plunged. In some cases the external surface is better consolidated than the rest of the corpuscle, and in this way occasions the production of an external membrane; this membrane, however, is only of subsequent formation, and frequently cannot be clearly distinguished from the entire element. An example of this formation presents itself on studying the texture of the gray substance of the nervous system. It will be seen that the gray corpuscles exist at first, that the gray matter is precipitated around these corpuscles, that it gradually becomes solidified, and that in some cases there is even formed an external membrane. The process of the formation of the ovum appears analogous. At the same time, or before the matter is precipitated around the corpuscle, changes occur in its interior which give rise to that which the abettors of the cell-theory have called the *nucleolus*. These elements appear to us then to be the result of a secondary formation. In some cases the matter precipitated around the primitive

corpuscle, forms concentric layers; at other times, this corpuscle remains excentric, that is, the matter precipitated rises over the corpuscle, like the glass of a watch.

The author next makes some remarks on the increase and decrease of the organic parts, on the regeneration of tissues which may have been destroyed, and on the differences subsisting between man and other animals, between one man and another, and also the differences observable in the same man at different periods of life, and then proceeds to consider the results of what has been said with respect to physiology and pathology.

The facts acquired to science by the researches of general anatomy find their application in the examination of the physiological and pathological phenomena of the human body. The explanation of these phenomena rests partly on the facts made known by general anatomy. The study of the physical, vital, chemical and anatomical characters will frequently afford an opportunity of speaking of the results acquired to physiology and pathology. The most important result of these researches is no doubt the knowledge of the organic systems, a knowledge which explains why parts very remote from each other are simultaneously affected. The attention of medical men to these circumstances was first called by Pinel. It was these ideas that formed no doubt the first basis of modern medicine, and of the researches of Bichat.

ANOMALIES.

The congenital deviations from the normal type sometimes seen in the body, either in its external forms, or in the distribution of the organic systems, present very great differences. When the anomaly exercises no influence on the performance of the functions of the organ which is its seat, and that it does not at all modify the external form of the body, it is called *anatomical* variety. Such, for instance, is the presence of a supernumerary muscle—the existence of only one kidney—transposition of the viscera, &c. When the congenital deviation opposes the free discharge of the functions, so as to render the existence of the individual impossible, it constitutes a *monstrosity* properly so called. The ætiology of anomalies is derived from our knowledge of the development of the organic systems. The opinions which have been advanced in accounting for monstrosities may be referred to three principal hypotheses, which mutually support each other: these are the theory of arrest of development, to which is closely allied that of centripetal formation, and the opinion which attributes a creative power to the arterial system. According to the best anatomists and physiologists, most anomalies depend on arrest of development: monsters, in their conformation, represent by one or more of their organs, the transitory state of the embryo in its different periods of growth. M. Serres it was who laid down the law of centripetal formation. On this supposition every organ is primarily formed of two lateral halves, tending to unite on the median line. G. Saint-Hilaire applied this law to explain monstrosities. If the development is arrested, the union does not take place: hence we have median scissures. The development, on the contrary, being in excess, the organs then tend to unite on the median

line: hence the fusion of organs and of cavities. Of the causes which produce abnormal development, the author is not disposed to treat. He merely states the most general conditions under which anomalies and monstrosities occur: for, in the midst of this apparent disorder, order still prevails; this cannot be understood but by a knowledge of the fundamental type. This may be called pathological general anatomy.

The author here lays down the general laws observed in the development of the various structural anomalies and monstrosities. Thus, 1. When two subjects become fused together, different tissues are never connected together: it is only similar organs are confounded when a monstrous juxta-position takes place. 2. In every monstrous individual there exists between the different anomalies constituting it, a sort of organic balancing, by means of which an anomaly by defect draws on an anomaly by excess of development; as if there existed a certain amount of productive force, which, if it did not act on one side, must necessarily act on the other. 3. Anomalies are so much the more frequent, in proportion as they are less serious, and in the inverse ratio of the importance of the organ affected by them: thus, varieties are more frequent than monstrosities. In the distribution of the vascular system it has been remarked that varieties are more usual at the termination of the branches than at their origin. The anomalies most rarely met in the vascular system are those which occasion a mixture of the pulmonary blood with the blood of the body, and thus seriously affect the health. 4. Most of the defects of conformation occur on the left side; it seldom happens that the vertebral artery of the right side arises directly from the aorta, whilst this is of frequent occurrence on the left. There are, however, exceptions to this law. 5. Certain systems are more subject than others to the defects of conformation. The greatest portion of the nervous system, the osseous system, and the muscular system, present anomalies much more rarely than others, and more especially than the vascular system. 6. The more an organ is repeated in the body, the more obnoxious is it to anomalies, and the less important is the anomaly. It is observed that the anomaly by excess is more frequent in the upper half of the body than in the lower. 7. There is some analogy between the anomalies of one and the same organ; when, for instance, there are two tongues, they are superimposed, one upon the other, and not placed laterally. The perforation of the septum of the heart, the divisions of the urethra, &c., always occur in some particular point. 8. Every organ presents certain deviations rather than others. The kidneys, for instance, have a particular tendency to unite on the median line. 9. The same individual may present several anomalies at one and the same time. Sometimes they occupy organs belonging to the same apparatus; sometimes they have their seat in different regions of the body. Thus the heart is always wanting in acephalous fœtuses; the simultaneous disappearance of the brain and supra-renal capsules may be said to be constant, &c. 10. Defects of conformation are confined within certain limits: to whatever degree the form of an organ or of the entire organism may deviate from the normal standard, it never becomes altogether incapable of being recognised: the heart has never been seen on the back, the lungs in the abdomen, &c. 11. However great the monstrosity may be, it will never cause the fœtus to descend in the zoological

scale. The erroneous opinions of some writers on this subject have had their origin in a supposed law, viz. that man passes through degrees of formation corresponding to constant formations in the animal series. 12. Defects of conformation are more frequent in the female; still, various defects of conformation of the heart and bladder occur more frequently in the male than in the female. 13. Certain anomalies seem to be hereditary: members of the same family having six fingers may be adduced as an instance of this.

The author next proceeds to an enumeration of the various morbid productions occurring in the various organs and parts of the body. He here adopts Müller's classification, with which our readers are already sufficiently acquainted.

In the *Second Section*, CHAP. I., he treats of the CELLULAR SYSTEM, which he defines to be a whitish or grayish mass, extremely soft, possessing but little resistance, moist, very elastic, diffused throughout the entire body, forming an uninterrupted whole, consisting of lamellæ and fibrils placed in juxta-position, the interstices of which are filled with serosity. With respect to its *Physical Properties*, it is very extensible; when very much distended, it at first becomes perceptibly attenuated, and at length gives way. This property of extensibility it owes to the presence of serosity. As soon as extension of the tissue ceases, retractility is produced. This is a distinct property from contractility, which is organic, and manifests itself after the employment of stimulants. The retractility in question is but a physical property, and the effect of elasticity. The cellular tissue is in general very soft; it is always moistened with serosity —it is colourless, when it occurs in thin layers; when it is thicker, it is whitish; it is semi-transparent, when distended. When dried by heat, t loses these physical properties, and acquires new ones.

Vital Properties.—Sensibility is not the attribute of the cellular tissue in the ordinary state. It may be cut and drawn in different directions, without the individual experimented on evincing any sign of pain. The cellular tissue is endowed with organic contractility, that is, the property of shortening during life under the influence of certain irritating agents. This contractility is most perceptible in the tunic of the dartos appertaining to the scrotum; which has induced some anatomists to constitute this a separate and particular tissue. All the absorption which takes place in the cellular tissue must be attributed to the blood-vessels existing in it. We must take care to distinguish imbibition from absorption; the former is a physical phenomenon common to all the tissues; whilst absorption is an organic property, with which certain vessels only are endowed.

The *Chemical Properties* of cellular tissue are next considered at full length. Then the *Structure;* here the opinions of Bichat, Bordeu, Meckel, and others, with respect to the nature and structural peculiarities of this tissue, are freely canvassed. The author next notices the texture, distribution, and mode of development of the cellular tissue, which, as containing nothing new, we shall pass over and proceed to notice a few of the pathological relations of this system. A knowledge of the physical properties of the cellular tissue accounts for several pathological phenomena. The most remarkable of these properties is its permeability. This property

will at once explain the following facts:—1. Migrations of solid bodies which readily traverse the cellular system. Pins, introduced into the stomach, or under the skin, are found to reach the fingers, toes, or other parts of the body. 2. The facility with which emphysema manifests itself after wounds of the lung, or after rupture of one of the cartilaginous rings of the trachea. Air penetrates very rapidly throughout all the cellular tissue, not only beneath the skin, but also in the interstices of the muscles, and in the substance of all the viscera When a large aperture is made to favour its escape, it passes out only in very small quantity, owing to the filamentous structure of the cellular tissue retaining the air in its interstices. 3. The readiness with which purulent collections are removed to a distance. The matter of the abscesses developed in the upper part of the body, escapes even to the feet, through the cellular tissue which fills the interstices of the organs. 4. In general anasarca it not rarely happens that all the serosity escapes by one single aperture; in œdema we may drive the serum from one part to another; it accumulates more especially in the depending parts. Thus, the feet are observed to become infiltrated first, and it is only at a subsequent period the upper extremities become so. All these phenomena suppose, not only the permeability of the tissue, but also the great elasticity of its elements. This elasticity, however, is altered by the effect of inflammation, and of other morbid states which render the tissue fragile. Thus, the cellular tissue of the small intestine becomes so fragile in cases of chronic enteritis, that on the dead body of an individual who has died of this affection, one may draw off in one piece the whole mucous membrane of the intestine. The cellular tissue which surrounds the womb that has become cancerous, being engorged and tumefied, the least effort is sufficient to tear it.

Bichat was deceived in attributing to the cellular tissue an isolated power in diseases of different organs. This isolation of diseases of the organs depends chiefly on the structure proper to each tissue, and on the differences of the vital properties with which it is endowed. On the other hand, in acute diseases, which have their seat in a particular organ, in the lungs, stomach, intestines, &c., the cellular tissue is often affected by juxta-position, and by reason of continuity with the organ affected. It becomes the seat of inflammation, of collections of pus, &c. Inflammation and the production of pus have not their seat in the anatomical elements exactly of the cellular tissue: inflammation is solely an affection of capillary vessels: but the great softness and extreme permeability of the cellular system allows the pus to accumulate more readily there than elsewhere. We are not to suppose that the cellular tissue is transformed into pus by inflammation; this morbid secretion only displaces this tissue, which is gradually destroyed.

The isolation of the organs in disease, is to be attributed, in general, not only to the different vital properties, but also to the difference of the blood-vessels, that is, to the existence in these organs of vessels arising from different trunks: thus, we find the nerves entirely intact, though all around them may be destroyed by suppuration. The knowledge of the degree of cohesion, different in different regions of the body, explains several phenomena in disease. The density, for instance of the cellular tissue on the nose, especially inferiorly, and on the alæ, produces remark-

able phenomena in erysipelas of this region, and acute pains, occasioned by the difficulty with which the skin of the nose becomes tumefied. Surgical operations, ligatures of vessels, are more difficult in the midst of a dense tissue; thus, they are more difficult in the subcutaneous tissue of the nucha, than in that on a level with the larynx. Serous infiltrations and emphysema take place more readily in the general tissue, and in that which is very lax, than in cellular membranes, or in dense portions of the cellular tissue. Hence, the rarity of serous infiltrations in the palms of the hands, or soles of the feet. We rarely see serous infiltrations or emphysema in the dense cellular tissue beneath mucous membranes. Serous infiltration of the cellular tissue of the large intestine is rarely observed in chronic diarrhœa.

The author next considers the General Anatomy of the *Nervous System*. This system he divides into two parts; one he calls the *central part*, or the central nervous system; it is inclosed in the cavities of the cranium or spine. The other part of the nervous system, *the peripheric part*, constitutes the nerves. Of these, there are two classes; the one arises from the spinal marrow by two roots; these are the *cerebro-spinal* or *white nerves*. These, including the central part of the nervous system, are designated *the cerebro-spinal system*, or the nervous system of animal life. The others form a chain of soft nerves, and grayish red ganglions; this is *the ganglionic system*, or the nervous system of organic life. Of the *physical properties*, the colour is the most important in this system. The white and gray colours are those which predominate, and serve to distinguish the different parts of the central portions of the nervous system. The gray and white substances of the nervous centre differ essentially from each other, in their structure and their texture, in some of their physical properties, and probably, also, in their functions. That the nervous substance possesses extensibility, to a certain degree, is proved in the case of dropsy of the ventricles. The other physical properties we shall not dwell on, but proceed to consider the vital properties. The essential vital property of the cerebro-spinal nervous system, and which solely appertains to it, is sensibility. The peripheric portion, which comprises the nerves properly so called, is sensible to a high degree. The seat of this property is, beyond all doubt, the medullary substance, the neurilema being composed merely of cellular tissue, and its removal not being sufficient to cause pain. These nerves are the organs of sensation and motion. With respect to the sensibility of the cerebral substance, which is considered as the seat of sensation, motion, and of the functions of the mind, opinions are divided. From experiments made by several physiologists, the author concludes that the brain, in the ordinary state, has no consciousness of the irritations addressed directly to its substance, and it appears, that the impressions, in order to be appreciated by this organ, require to be transmitted to it through the medium of the nerves. All are agreed as to the sensibility of the medulla spinalis and medulla oblongata.

We shall now pass on to the Chapter on the BLOOD, in which we find the author has collected all the more modern discoveries with respect to this important fluid. We shall first consider *the physical and vital properties of the blood*. The arterial blood is of a red vermilion colour, whilst venous blood is a deep dark colour. The *heat* of the blood, examined in

the vessels, is equal to that of the body; it is therefore 38 C.; its caloric capacity, that is to say, the rapidity with which it cools, is related to its specific gravity. Almost all observers have found that the arterial blood is from $1\frac{1}{2}°$ to $1\frac{1}{4}°$ C. warmer than venous blood. Its specific gravity varies between 1.050 and 1.059; the mean is 1.055; arterial is lighter than venous blood. The *quantity* of the blood has been determined by some at 10, by others at from 12 to 15 kilogrammes. Valentin says that it is to the weight of the entire body in the ratio of 1 to 4.25. The consistence of the blood depends on its specific gravity, heat and viscidity. When the blood is drawn from the vessels, its consistence changes; it becomes solid, that is, it coagulates: it is at first a gelatinous mass, which then contracts, and in this way forms the *clot* and the *serum* or *serosity*. Arterial blood coagulates more quickly than venous blood. With respect to the *cause of the coagulability* of the blood, various opinions have been advanced. Some will have it that the blood is kept in the fluid form by its inherent *vitality*. Aneurisms, however, afford an instance of blood coagulating in the vessels during life. Others refer the coagulation to the *loss of motion and of heat*. This, however, has been disproved by repeated experiments, as also by pathological observation.

Almost all authors have thought that the external *air* may produce coagulation of the blood; a great many experiments go to prove that coagulation is accelerated by favouring the access of the air, and that it is retarded under the opposite circumstances. These experiments do not seem deserving of much confidence, from the difficulty of completely excluding the contact of the air with the blood. The coagulation has been attributed chiefly to the oxygen, not to the azote, whilst the carbonic acid gas retards or prevents it: a proof of this has been sought in the blood of asphyxiated persons, &c. It is now ascertained that the blood contains several species of gas: venous blood more especially contains carbonic acid gas; an attempt has been made to favour the developement of this gas by placing beside the blood some lime-water to see whether the coagulation would be accelerated, thus attributing to the development of the gas the cause of the coagulation. Home and Scudamore concurred in this view of the matter. Other physiologists imagine that the formation of the carbonic acid gas by oxygen should be considered as the real cause The author considers the two last opinions the most probable. Hewson was one of the first who ascertained that the sulphates, muriates, nitrates, phosphates, acetates, borates, and the carbonates of soda and of potash, when mixed with the blood, are capable of preventing its coagulation. The carbonates are the most powerful; free alcaline solutions are long known to possess this preventive power. The author has seen similar effects produced by the presence of pus and albumen. In all these researches there are two circumstances which must not be forgotten: 1, that almost all substances mixed with the blood in very small quantity accelerate coagulation, even when in larger quantity they retard it. Soda and caustic potash form exceptions to this; the minutest quantities of these substances retard coagulation: 2, it must be remarked that large quantities of foreign substances may retard coagulation, by their preventing the particles of fibrin from approximating. The results of modern experiments on this subject may be thus summed up: 1, the alkalies, potash, soda and am-

monia, entirely prevent coagulation; lime retards it; 2. Soluble alkaline salts (combinations of soda, potash, ammonia, magnesia, baryta and lime, with carbonic, acetic, nitric, phosphoric, tartaric, boric, sulphuric and cyanhydric acids, as also the chlorides) in very small quantity, favour coagulation. These substances, on the contrary, when in a concentrated solution, retard and even entirely prevent it. The most active salts are the carbonates; the least active, the combinations of chlorine and the sulphates; 0.007 of carbonate of soda retard coagulation for several hours, whilst the sulphates do not act in the proportion of 14 to 1000. The action of a salt is so much the more marked, in proportion as it reddens the blood more, whilst the combinations of chromine, chlorine, and iodine do not at all redden it, and do not prevent its coagulation. When to blood liquefied in this way by a salt there is added a greater or less quantity of water, a new coagulation takes place (fibrin is precipitated). 3. The metallic salts decompose the blood, and sometimes produce a coagulation, sometimes prevent it. 4. Very dilute vegetable acids favour coagulation; when a little more concentrated, they prevent it; when very concentrated, they decompose the blood, like the mineral acids. 5. The other vegetable substances have not yet been sufficiently studied: some say, for instance, that narcotics prevent the blood from coagulating; others affirm the contrary. We are in the same doubt regarding the action of poisons; it is, however, generally believed that the latter, as well as thunder, a violent electric discharge, the instantaneous destruction of the nervous system, &c., prevent coagulation. 6. Very dilute solutions of gum Arabic, of sugar, albumen, milk, &c., appear to act merely in a mechanical way in preventing coagulation.

From the time the blood becomes coagulated, it goes on contracting until the clot floats in the serosity. It is difficult to determine the quantitative relations between the clot and the serum, as also to ascertain the time necessary for all the serosity to be expressed. The contraction is sometimes terminated at the end of six hours; sometimes not till a much longer period. The more watery the blood is, the less will it contract.

When the blood is prevented from coagulating by suspending in it some portion of animal substance, such as a piece of intestine, there soon forms a deposit of red particles, over which a colourless fluid floats. This is distinct from the serosity of the blood. This is called the *plasma, liquor sanguinis, plastic lymph;* it is colourless, a little turbid, and viscous.

The author next proceeds to consider the *Chemical Properties of the Blood.* The number of substances constituting the blood varies, according to different authors, between 20 and 29. It also contains gases in solution.

Having noticed the various ways by which fibrin and albumen are obtained from the blood, he then considers the differences between these two substances. Mulder was the first who proved that these two substances are modifications of *protein.* According to the same authority, fibrin contains more oxygen than albumen does. Vogel affirms the contrary; the latter chemist has also found less azote than in albumen. Mulder states that phosphorus and sulphur enter into the elementary composition of fibrin and albumen; that the latter contains almost twice as much sulphur as the former, the quantity of phosphorus being the same in both. Fibrin

coagulates spontaneously, whilst albumen requires an elevated temperature to make it do so.

He next details the re-action of chemical agents on fibrin and coagulated albumen. M. Lecanu has succeeded in separating the red colouring matter of the blood into two parts, the one colourless, the other coloured red. Berzelius calls the former *globuline*, the latter *hematine*. Globuline appears to be a substance intermediate between albumen and caseine—it contains phosphorus and sulphur. Hematine is insoluble in water and alcohol—all the iron of the blood seems to be combined with the hematine. It is not known under what form the iron exists in the blood, nor whether the blood owes its colour to this metal.

With respect to the colour of the blood and the changes it undergoes, whether by gases or different chemical substances, the coagulum floating in the serum has a bright red on the surface, whilst the bottom of the coagulum acquires a deeper colour. The oxygen reddens the blood very much; carbonic acid renders it black. Generally speaking, the blood acquires a deeper colour by alkalies, a brownish colour by acids, and greenish by chlorine. All the substances which combine with the oxygen of the blood, render it more blackish. The neutral salts, especially nitrate of ammonia and the hydrochlorates, give the blood a brighter red colour. The *yellow colouring matter* of the bile it is, which gives to the serum of the blood its greenish yellow colour. The other elements of the bile have not been found in the blood even during jaundice. The author now considers the leading differences between arterial blood and venous blood. Hering, Simon, and Nasse say that arterial blood contains more water. Lecanu and Letellier affirm the contrary. Lecanu also states that arterial blood incloses more blood-globules than venous blood. The quantity of fibrin appears to be more considerable in arterial blood; the fibrin of venous blood is softer, and deprived of colour with more difficulty; that of arterial blood is soluble, according to M. Denis, in nitrate of potash, but not that of venous blood. The quantity of albumen, of fatty and extractive matters, and of salts, is nearly the same in both kinds of blood. The author next enters most fully and satisfactorily into the microscopical examination of the blood. We shall present here a succinct analysis of the results of this examination.

Red corpuscles, Blood-globules.—The blood-globules of man are small round discs, the central part of which appears shadowed or transparent, according as it is approximated to or removed from the focus of the lenses. On observing some of these corpuscles placed on the field of the microscope, one soon becomes convinced that this central part is but the thinnest part of the globule. This globule is depressed on both sides, since, when placed on the field of the microscope, it presents the appearance of an elongated 8. The edge forms a thick ridge all around, more coloured than the central part; it occupies nearly one-fourth of the diameter of the blood-globule; but in the globule floating in the serum, it is not separated by any line from the central portion. This central depression is however not to be considered characteristic, nor essential to the form of the globule. The blood-globules of most of the mammalia have the same form as those of man; but their size varies very much in different families. The elephant has the largest globules amongst the mammalia, and the ruminantia the

smallest; the family of the chameaux is the only one whose blood-globules are not round as in the other mammalia; on the contrary, they are elliptical, as in birds, reptiles, and fishes. In the latter, *scil.* birds, reptiles, and fishes, the blood-corpuscles appear at first as if united together; after a while, however, a nucleus is seen to appear on the centre, which becomes more prominent, the longer the globule remains on the porte-objet. When placed on the field of the microscope, the globule presents no central depression, but rather an elevation, which, however, is not an abrupt prominence; it continually diminishes towards the two extremities of the corpuscle. This prominent part of the elliptical globules is called *nucleus*. In the round globules there is only found at times a small central granule, which at other times does not exist, or is produced only by drying the globules. Hence the different opinions of authors regarding the presence or absence of a central nucleus in the globules of the mammalia. In the globules, then, we may distinguish the nucleus and the membrane. The membrane is the seat of the colouring matter, the hematosine of the globules, which is deposited not in granules, but continuously all over the corpuscle. When treated with water, the membrane is not dissolved; but it is deprived of colour, and it is only with difficulty or by the aid of colouring matters (tincture or vapour of iodine) that its presence can be ascertained. The coloured matter appears neither inclosed within the membrane, nor deposited on its surface, but combined with the substance itself. Neither is the latter to be considered an envelope including fluid contents; but the entire membrane appears to consist of a single substance, filling up the entire thickness of the corpuscle, coloured continuously, and floating in the liquor sanguinis. The corpuscles, not being hollow internally, cannot therefore inclose either water or gases. This last opinion, however, which is that of Schultz and Berres, is at once refuted by the appearance of the globule, the presence of gases being made manifest by the particular manner in which they refract light. This membrane cannot be proved to be denser externally than internally; so that there is no reason for calling it an *envelope*, except the better to distinguish it from the nucleus.

The *nucleus* is probably colourless; it is oblong in the elliptic globules, and seems composed of several small granules; in such of the round globules as have it, it is round, composed of a single small granule. It usually occupies the centre of the globule: its diameter is from one-fourth to one-fifth the length of the globule. The author seems inclined to think that the nucleus is formed chiefly by coagulation; because, at first there is scarcely a trace of nucleus, and it becomes the more apparent, the longer the globule has been out of the body. He admits, however, that at times there exists in some globules a slight trace of nucleus even at the moment when they are placed beneath the microscope, or even during the circulation. In the nucleus, there exist some granules described as *nucleoli* of the nucleus These granules seem to arise from very minute drops of oil, inclosed within the nucleus. Muller, Simon, and Maitland think that the nucleus is formed of fibrin. The colouring matter is for the most part deposited in the blood-globules: but a portion is also found dissolved in the liquor sanguinis, which is always a little reddish. The round blood-globules have a great tendency to adhere together by their flat side, so as to form piles, like pieces of coin. They are also very elastic in all verte-

brated animals, so that their longitudinal diameter acquires sometimes double its length. The changes which take place in the globules by drying, by their decomposition in the serum of the blood, or by the action of foreign substances, are very remarkable, and merit all the attention of the physician, as a knowledge of these points may be turned to good account in pathology.

The *decomposition* of the blood-globules takes place very rapidly, especially in Summer; it is probably produced by the alteration of the serum. The globules become serrated at their edges; folds are formed, which are continued for some distance towards the centre, and which have been taken by some for internal compartments. By degrees these folds divide the membrane of the globule more deeply; the edge then seems to consist of small granules (from 8 to 10 in the human subject.) *Desiccation* also produces indentations on the edges; whilst the central part of the round globules is cleft by desiccation, in the elliptic globules the nucleus becomes more apparent, and at the same time blackish. *Water* transforms the blood-corpuscles of man and of the mammalia into real round globules, the globule is at the same time deprived of colour, becomes grayish and very transparent; some chemical agents may serve to render it perceptible again. When, for instance, the coagulum of the blood of a mammiferous animal is washed until the form of the globules can no longer be distinguished, we have only to add the acetate of lead to make the membranes of the globules re-appear. *Hydrochlorate of Soda* produces indentations on the corpuscles and transforms them into round globules smaller than those produced by the action of water. *Æther* renders the corpuscles smaller, paler, and at length dissolves them almost entirely. *Bile* and *Urea* dissolve the corpuscles according to *Hunefeld*. *Dilute albumen* changes their form more than pure water. It appears that *carbonic acid gas* renders the corpuscles more opaque, whilst they become more transparent in oxygen.

White Globules.—Müller was the first to notice these in the blood of frogs, and the author in the blood of the mammalia. They are small, colourless, finely granulated corpuscles, insoluble in water, and strong refractors of light. There are two species of them: some are round, and include two or three granules, which become more apparent, when treated with acetic acid: these are true *lymphatic globules*, arising at least in part from lymph mixed with blood. The others also are generally round though sometimes oblong; at other times irregular, with edges slightly serrated, having a finely granulated surface. These globules are the product of the coagulation of the fibrin, whence called *fibrinous globules*. The author thinks it probable that the fibrinous globules are transformed, during the circulation, into globules of the first species, so that the latter do not seem all to come from the lymph. We have found their quantity increased in fever patients who had not eaten for several days, in phthisical patients, &c. There are several forms of transition between these two principal forms.

Molecules of Coagulated Albumen and Drops of Fat.—Albumen in the state of solution is a limpid liquid, presenting no species of granules; but when it is coagulated, there is presented a multitude of molecules, either isolated, or combined in great quantity. Some of these molecules exist

also in the blood, and seem to arise from the albumen coagulated by the salts contained in the serum. Some few drops of *fat* exist at times in the serum; crystals form there only by desiccation.

Liquor Sanguinis, Plasma.—Such is the name given to the liquid in which the corpuscles are suspended; it is colourless, though sometimes it presents a slightly reddish tint. It may be asked what relation exists between the globules, the coagulum, the liquor sanguinis, and the serum. Microscopical observation had already proved that the coagulum contains blood-globules entire.

Müller succeeded in separating the globules and the liquid which holds them in suspension. The coagulum is formed notwithstanding this separation; hence it is evident that the blood-globules go for nothing in its formation. The difficulty was to find a filter fine enough to retain blood-globules. Human blood cannot be filtered. But the blood-globules of the frog remain on the filtering paper, whilst the liquor sanguinis passes through, and soon coagulates into a white, limpid coagulum, entirely consisting of fibrin. This then is dissolved during the circulation in the liquid which holds the globules in suspension, and which may be called the liquor sanguinis to distinguish it from the serum (the *plasma* of Schultz) to distinguish it from the serum which holds no fibrin in solution.

The author now passes on to the consideration of the distribution of the blood, that is, its circulation; then to that of its development, to the differences occurring in it, and depending on age, sex, and a variety of other circumstances; then to the development of its several elements. All that has been said of the way in which the blood-globules are developed in the embryo is so hypothetical, that we do not deem it necessary to enter into detail on that subject. The study of the development of the blood-globules in the adult has yielded to Nasse, Wagner, Henle, &c., chiefly this result, *scil.* that the red corpuscles arise chiefly from a transformation of the white globules. The elliptical blood-corpuscles undergo the following changes:—1, they are at first white, (lymphatic,) round globules; 2, these white globules are surrounded by a very thin round envelope; 3, they become elliptical pale corpuscles, and but little changed by water; 4, lastly, the nucleus becomes elliptical, and the globule coloured. The round blood-corpuscles present the following degrees of development:—1. They are white globules insoluble in water. 2. A nucleus is formed in them. 3. They become lenticular corpuscles with a nucleus which is divided into others that are smaller. 4. These become transformed into flattened corpuscles with a divided nucleus, and into others with a lateral impression. 5. Hence arise flattened, very pale corpuscles, not much changed in water, which at length become—6. Perfect blood-corpuscles.

The author avows that his researches on the blood-corpuscles are not yet brought to a close. He next comes to the regeneration of the blood (sanguification.) The intestinal tube is, during extra-uterine life, the principal source of sanguification. There is formed in that organ, by the assimilation of the digested aliments, a liquid which serves for the regeneration of the blood. This liquid bears but slight resemblance as yet to the blood during its sojourn in the chyliferous vessels; but, according as

it is advanced slowly through the vessels, the mesenteric glands, and the thoracic duct, its resemblance to the blood becomes more and more marked, until that passing into the venous system, it reaches the heart, intimately mixed with the venous blood. A portion of this liquid, however, is absorbed by the vessels of the intestinal tube, and mixed with the blood of the vena portæ.

The lymph may also be considered as another source of the blood; but the fluid itself takes its origin from the blood which has transuded through the vascular parietes, and has not served for nutrition. With respect to sanguification, two species of lymph may be distinguished: the one, the less perfect, returns from all the parts of the body, and has to pass through the lymphatic glands before it can reach the blood: the other is the chief product of what are called the sanguineous glands. The lymph passes immediately into the blood, or only after having been mixed with the chyle. This last circumstance takes place for the lymph of the lower extremities of the uro-genital apparatus, of the spleen, and of the suprarenal glands.

The lymph and chyle, (white blood of some writers,) mixed with the blood, reach the heart, where certain physical and chemical changes are probably produced. Then passing into the lungs, it becomes fitted for nutrition by the rejection of carbonic acid gas, and by the access of oxygen. The action of the respiration appears to be exercised chiefly on the liquids mixed with the blood. Hence the principal sources which furnish new substances to the blood, are the intestinal tube and the lungs. The blood, passing through the different secreting organs, furnishes the elements of secretion. Some of these are entirely lost to the blood; such are the secretions of the kidneys, (the urine.) of the lungs, (gas, water,) and also of the skin. Other secretions, on the contrary, partly return to the blood; as the secretions of all those glands whose excretory ducts are placed on the surface of the digestive passages, as the saliva, pancreatic and gastric juices, &c.

After having in this way given a general view of sanguification, he then proceeds to examine separately in what way the different elements of the blood are formed. Most of the solid elements are combinations of *protein*. The question is to know whether all the protein comes as such, already formed in the digestive canal, or whether it is not, at least in part, the product of this transformation of the substances digested. To the present time persons believe in these transformations, for instance, of albumen into fibrin, &c.; in other words, it supposed that, by the vital forces, the less azotized substances become more rich in azote, according as they are transformed into blood. But new researches are tending to prove that all the materials of the blood exist already formed in the aliments, that they arise from the animal or vegetable kingdom.

The *albumen* and *fibrin* of the blood come from the chyle and lymph. It is observed that the quantity of albumen increases in the chyle during abstinence, whilst that of the fibrin diminishes in the blood and in the lymph.

The *hematosine* is formed probably during the circulation and independently of the spleen, since the removal of this organ produces no change in the colour of the blood. With respect to the manner in which the

colouring matter is formed but little satisfactory is known. The same may be said of the other matters contained in the blood. The carbonic acid gas is formed by the combination of oxygen with the carbon of the blood in the capillary vessels.

Physiological Results.—The blood yields all the materials of *nutrition*, and the part of the blood which yields them is the liquor sanguinis. Of these materials the *fibrin* occupies the most important place; the blood is no longer coagulable in abstinence. The muscular fibre is almost entirely composed of fibrin. Defibrination brings death with it. *Albumen* and the *fats* chiefly enter into the combination of the nervous system: albumen is probably transformed into fibrin. The *liquid fats* are deposited in the adipose system.

Bichat considered venous blood unfit for the secretions. It must be observed, however, that several secretions, as those of the lungs, liver, (and in some vertebrate animals with cold blood,) those of the kidneys, all come from venous blood. Fat is deposited in greater quantity in men whose blood is less oxidized, whilst nutrition and secretion do not appear at all disturbed. Animal heat appears to be intimately connected with the oxidation of the blood. All the vitality of the nervous and muscular systems seems to depend on the contact of the blood This is proved by the effects of tying the blood-vessels, and also of diminishing the total mass of blood. When the blood is arrested in any part, this part loses its sensibility: the muscles are no longer subject to the will; they lose their characteristic property of irritability. When the brain is deprived of blood, death follows immediately. Venous and lymphatic absorption cease the moment the arteries are tied. All nutrition, all secretion becomes abolished. Gangrene occurs in parts wholly deprived of blood. Poisons no longer exercise their deleterious effects. The temperature of the part falls. Dropsical effusion take splace. With respect to the effects of excessive abstractions of blood, they are syncope, convulsions, delirium, coma, general debility, dropsy. Repeated blood-lettings produce in the composition of the blood changes which are important in a therapeutic point of view. These changes probably produce others in the density of the blood-vessels, so that the normal state of endosmosis and exosmosis becomes changed. The blood we know furnishes also the materials of secretion. Another question is, whether the liquids secreted exist ready prepared in the blood, or whether the latter undergoes changes in the glands? MM. Dumas, Prevost, Chevreul, &c., are of the former opinion. It is known that the blood contains colouring matters, fats, urea, cholesterine. &c. Urea has been found in the blood of animals, from which the kidneys have been removed, and also in that of the human subject after a retention of urine, for instance in cholera. Without then expressing a judgment against the changes which these chemical elements may still undergo, and probably do undergo, in these glands, and against the particular attraction which presides in each gland over the choice of the liquid secreted, it may be affirmed that the matters secreted exist ready prepared in the blood.

Setting out from this principle, and proving that the lungs should be set down as glands, and resting our argument on the presence of gas in the blood, the author endeavours to prove (*Arch. Gen. de Medecine*,

Feb. 1842) that the respiration should be considered as a secretion of the gas dissolved in the blood. Some new researches of Liebig, however, in opposition to those of Magnus, tend to prove that the oxygen is not dissolved in the blood, and that the carbonic acid gas obtained by Magnus is but the product of the change of the bicarbonate of soda into carbonate by hydrogen. The secretion of the carbonic acid gas would then occur only at the very moment of the passage of the blood through the lungs. The expired air contains less oxygen than the inspired air, but more carbonic acid gas. Still the increase of the latter is not in proportion to the quantity of oxygen lost, since more oxygen is absorbed in respiration than is necessary for the formation of the carbonic acid gas expired. With respect to the *pathological results* obtained from the chemical and other examinations of the blood, the author admits that very little has been as yet accomplished. The buffy coat in particular presents itself under such various and even opposite states of the system, that little useful information in the treatment of disease can be obtained from its inspection.

The phenomena of *congestion* and *inflammation* find an explanation in what we know concerning the blood In these morbid states, says the author, we first see a diminution in the diameter of the capillary vessels, or acceleration of the current. The capillaries then dilate; the blood circulates more slowly, but in a uniform manner. At a later period, the circulation becomes irregular, the blood advances and recedes, it oscillates, and at length is completely arrested. The vessels give way, and extravasations of blood take place. At the same time that the blood is arrested, there is transudation, first, of bloody serum, then of the liquor sanguinis, into the surrounding tissue—these phenomena, with some others, form the chief signs of inflammation: redness, pain, swelling. From the moment the blood is arrested commences the second stage of inflammation, called *stasis*. It is at this stage that the extravasation of entire blood is observed, that is, we see the blood-globules in the sputa of pneumonia, in the urine, &c. Now these globules not being capable of passing through the parietes of the capillaries, the latter are supposed to be torn. This stage is soon followed by the third, *exudation*. If it is only bloody serum that transudes, there follows an accumulation of albuminous liquid, containing however less albumen than serum. If, on the contrary, the liquor sanguinis passes through the capillaries, the transuded liquids will contain fibrin. This generally coagulates, and thus forms what is called hepatization, false membranes, &c. Inflammation may terminate by resolution, gangrene and suppuration.

The extensive notice which we have given of this work, whilst it sufficiently indicates the high opinion which we entertain of it, prevents us from continuing our analysis any further. Its happy combination of theory and practice places it far above any work on the same subject with which we are acquainted. All the best modern works we find have been consulted and turned to the best account in its construction. We recommend it therefore to the perusal of those who wish to make themselves acquainted with the important improvements recently made in General Anatomy, more especially in its application to Pathology.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

NOTICES OF SOME NEW WORKS.

MESMERISM AND ITS OPPONENTS. By *George Sandby*, jun. M. A., Vicar of Flixton, Suffolk. Longman & Co. 1844.

WE cannot but think that the practice of MESMERISM is a very questionable *vicarious* employment, for that of teaching the doctrines of Christianity to the good folks of FLIXTON, in Suffolk. We should think that Mr. Sandby would do much more good by praying with the sick of his vicarage than by pawing them over on the bed of suffering or death, and distracting their minds from the awful preparation for another world. Is there no bishop to watch the conduct of the Suffolk clergy? Mr. Sandby looks forward, of course, to be victimized, like Galileo, by the Pope; but in this he will be disappointed. He will, we imagine, receive a quiet hint from his superior in the church, at home, to lay aside the mummeries of Mesmerism, and attend to the spiritual wants of his flock. We shall not take the trouble of wading through the trash of which this volume is composed—hashed and raked up from old tales and cases that have been over and over again proved to be falsehoods and deceptions. Thus, the Deptford imposition is recorded once more, as though it were true as Holy Writ, while every one knows that it was a piece of as glaring mendacity as even the annals of Mesmerism can produce!

The Vicar of Flixton tells us that belief in the truth of Mesmerism has now spread the whole length and breadth of Great Britain—excepting among the great bulk of the medical profession! And why has it not taken root there? The reader will be a little surprised at the following reason for medical scepticism.

"But if Mr. Wakley did not succeed in disproving the honesty of two excellent sisters, there was one thing in which he was eminently fortunate. The thunders of the 'Lancet' had their intended effect on his medical brethren. Though anything but a favourite with them before, he henceforward became their pet authority. And strange to say, he also became their terror. Fearful of being hitched into a line of the next week's 'Lancet,' as believers in the so-called absurdity, some gentlemen straightway swallowed their rising convictions with wry faces and reluctant hearts;—while the remainder, *almost to a man*, refused for the future to be present at any Mesmeric demonstration whatsoever. Like Mr. M'Neile at Liverpool, they carefully retreated from the evidence of their own senses, but from a different reason altogether. My clerical brother judged that there was something supernatural in these cases;—he regretted that he had not faith to play the part of exorciser and bid the devil depart, and from want of this faith would '*see nothing of it*.' But the fears of the liberal profession were of a different order. It was not of an evil spirit that *they* stood in awe; it was of Mr. Wakley,—of the evil genius of the 'Lancet.'"

So the medical profession, "almost to a man," refuses to believe in Mesmerism, because Mr. Wakley detected the impostures of the Misses Okey!

On the former occasions, we stated that, if Mesmerism were a reality, there would be infinite danger from it—that no man's life or woman's virtue would be safe. But we said at the time, that there was no such danger, because Mesmerism

was a gross humbug. The Vicar, however, believing in the truth of Mesmerism, is forced to admit that "there are certain dangers touching *la morale*." And how does he get over these?

"If it is meant that under the *pretext* of Mesmerising, in a case where Mesmerism is not required, parties can avail themselves of the occasion to commit an offence *contres les bonnes mœurs*, I am not careful to enter upon the objection. *Men sometimes go to church from the most improper motives*; men sometimes read the Scriptures with no other view than that of finding food for ribaldry and unbelief; still, as has been often said, who would shut up our churches or burn our Bibles on that account? Again, we say the abuse of a thing proves nothing against its value. If parties, in sport or in thoughtlessness, throw themselves into the power of an unprincipled acquaintance, with them lies the fault, and they must take the consequences. Still I have my doubts whether Mesmerism does afford the easy opening for misconduct with which it has been taxed. The deep sleep or torpor which would place the sleeper so completely at the mercy of the Mesmeriser as to give an opportunity for evil, does not occur every day;—and more generally, *if not always*, the Mesmeric state produces, on the part of the patients, *such a high tone of spirituality and sense of right*, as to make them less than ever disposed to an acquiescence in what is wrong.

So, then, the soporific effects of a dull sermon, and a stupid preacher, are to be put into comparison with that Mesmeric condition in which a man or a woman may have their legs cut off without the slightest consciousness of the operation!! Oh, admirable reasoning!

The Vicar's chapter on the contrast or comparison of the Miracles of Christ with those of Mesmerism, had better been omitted. We maintain that they are not precisely identical, and therefore they must be totally different. Mesmerism, he avers, does not pretend to turn water into wine, or to walk on the sea. No. But if it enable a girl to see through her navel as far as China or Peru, we maintain, that this is, if possible, the greater miracle of the two! We are not, indeed, among the bigots who would throw the Vicar of Flixton into a dungeon for instituting such odious comparisons on such sacred subjects; but we certainly would recommend his bishop to give the vicar a hint to mind his own business—"*ne sutor ultra crepidam*." We shall dismiss this subject with the following short extract.

"Another objection is, that the sleeper is placed in an undesirable state of feeling in regard to the Mesmeriser; that there is an attraction towards him,—something amounting to affection, or even love; and that this state of mind or feeling reduces the patient to an improper dependence on the will of another. That, in the Mesmeric state, the sympathy between the Mesmeriser and the sleeper is powerful and extraordinary, we all know; it is one of the most curious phenomena. The sensibility that is then produced is singular in the extreme. But the feeling is rather that which exists between two sisters than anything else; it is a feeling which has regard to the happiness, and the state of moral being of the Mesmeriser; which is alive to injuries or pain inflicted on him,—which *desires his well-being here and hereafter*."

The Vicar tells us that the whole of the medical profession is deterred from embracing MESMERISM by the rod of Mr. Wakley! We wish there was a coroner on the bench of bishops to exercise a similar and salutary restraint on the clergy of this country.

MEDICINES, THEIR USES AND MODE OF ADMINISTRATION; INCLUDING A COMPLETE CONSPECTUS OF THE THREE BRITISH PHARMACOPŒIAS, AN ACCOUNT OF ALL THE NEW REMEDIES, AND AN APPENDIX OF FORMULÆ. By *J. Moore Neligan*, M.D. Dublin, London, 1844.

THE object avowed by the author in the compilation of this book is to furnish a concise view, but as complete as possible, of the different substances, both simple

and compound, which are deemed worthy of a place in the Materia Medica. In the arrangement of the articles of the Materia Medica, he has adopted a physiological classification, from a conviction of "the great practical value of an arrangement which is based on the ultimate medicinal effects of remediate agents." Were we disposed to be hypercritical, we might object to the author's saying that a physiological classification is one "based on the ULTIMATE medicinal effects of remediate agents." A physiological classification is one based on the IMMEDIATE, or, as they are sometimes called, *primary* effects of medicinal agents. The absence of the natural and chemical history of the Materia Medica, renders the work an inadequate substitute for a Dispensatory; indeed, we are strongly inclined to think that the same reasons which induced Dr. Paris to omit the department of Special Pharmacology from his recent edition of the Pharmacologia, should have prevented Dr. Neligan from sending his work to press. The table of contents is very large indeed, extending to something more than twenty-four pages; this facilitates reference very considerably, a matter of no little importance in a work of this kind, where the arrangement adopted is of so unusual a description. The several classes are arranged alphabetically, and are as follows—(each class occupies a Chapter.) 1. Antacids. 2. Anthelmintics. 3. Antispasmodics. 4. Astringents. 5. Cathartics. 6. Caustics. 7. Diaphoretics. 8 Diuretics. 9. Emetics. 10. Emmenagogues. 11. Emollients. 12. Epispastics. 13. Errhines. 14. Expectorants. 15 Narcotics. 16. Refrigerants. 17. Sedatives. 18 Sialogogues. 19. Stimulants (general.) 20. Stimulants (special.) 21. Tonics. The last or twenty-second Chapter contains what the author calls "supplementary agents;" under this head are included the different articles which, though not employed in medicine for their remediate powers, are in frequent use as colouring agents, perfumes, tests, and pharmaceutical agents. Next comes an Appendix of Formulæ, which is, however, very restricted, being confined principally to the new remedies described in the work, or to those not yet in general use. This is followed by a posological table; now the doses of the various medicines being invariably given throughout the body of the work to which such tables are appended, we have always thought that these posological tables were of comparatively little use, and may therefore be very well omitted: they are in fact mere filling stuff. Truth obliges us to say that, after running over Dr. Neligan's book, we have been unable to find anything in it of that novel or original character, such as to entitle the author to any encomiums from us as one who has contributed to the extension of medical knowledge. The work is one of mere compilation, containing nothing whatever that can render it likely to supersede any of the very numerous works already published on the same subject. The descriptions are far too meagre to allow the student to dispense with the Dispensatory or Dictionary of Materia Medica. In fact, the book is little more than a large conspectus of the three Pharmacopœias of London, Dublin, and Edinburgh. The alphabetical mode of arranging the several classes of medicines we do not like. We consider Old Murray's much more rational: it is the one indeed which forms the basis of the arrangements that have been adopted by subsequent writers on Pharmacology in this country. It is not a little repulsive to our ordinary modes of thinking on these matters, to find Caustics immediately following Cathartics, Epispastics following immediately on the heels of Emollients. We never met a classification which so decidedly sets at defiance the laws of good division, as the one adopted by Dr. Neligan. Still the book is one which we have no doubt will prove serviceable to the student and junior practitioner, for whose especial use the author seems to have intended it. Considerable care has evidently been bestowed on its compilation.

On the Absorption of Blood and Pus. By *Dr. Zimmermann*. (Condensed from the Beiträge zur Physiologischen und Pathologischen Chemie und Mikroskopie, &c. Berlin, 1843.)

In the theory of Absorption, so far as relates to the absorption of fluid substances in a purely physical way (endosmosis and exosmosis.) was already beset with its own very serious difficulties, this was still more the case with fluids which contained solid molecules, as, for instance, chyle, blood, pus, &c., so that to those pathologists, who for several years invariably followed in the footsteps of the physiologists, the absorption of pus was absolutely impossible, and they were forced to have recourse to hypothetical modes of accounting for the circumstance, wherein the vis medicatrix naturæ performed a very prominent part.

That pus cannot be absorbed as pus from abscesses, serous cavities, &c. so long as the blood vessels, and lymphatic vessels are completely uninjured in their structure, is at the present day admitted on all hands, and for this advance in the knowledge and investigation of the difficult subject regarding pus-absorption we are indebted to a strict micrometrical examination of pus-globules and of the capillary vessels. An absorption either of the blood-vesicles or of the pus-globules in the way in which homogeneous fluids are absorbed, cannot be maintained, and all the arguments advanced in defence of it rest either on erroneous hypotheses, or on false conclusions. Dr. Piorry, for instance, in his recent paper on pyemia states, that a resorption of pus-corpuscles may take place, whilst the blood-vessels and lymphatic vessels remain uninjured, because blood-vesicles, which, according to Milne Edwards, differ but little from the former in size, have been re-absorbed, as in ecchymoses, for example; in answer to this it may be stated, in the first place, that the pus-corpuscles are in general not so large as the blood-vesicles, and secondly, that their resorption in cases of ecchymosis may by no means follow, as Dr Piorry supposes. In the same way we may dispose of another argument advanced by him namely, that just as well as the pus corpuscles make their exit from the uninjured vessels, these same pus-corpuscles may be re-absorbed again

For an escape of blood vesicles or of pus-corpuscles from the blood-vessels can only occur in one of two ways: either the vessel is torn through excessive expansion occasioned by an accumulation of blood or pus, or, as frequently seems to happen with respect to the latter, the cells of the vessel have been metamorphozed into pus by contact: the vessel thus becomes broken in its continuity, it is no longer uninjured, even though the aperture exhibited by it should not be larger than the diameter of a single pus-corpuscle. Who, for instance, would assert, if a very fine needle were swallowed, and if this comes out at the perinæum, that it made its way from the stomach to the intestine, without having destroyed the continuity of the tissues through which it passed? the same happens with respect to a pus-corpuscle. So that the smallness of the aperture can make no difference.

If blood-vesicles, together with the other constituents of the blood, are capable of passing through the parietes of the capillary vessels in this way, it does not appear probable that they perforate the parieties of these individually: it may be that, in consequence of the active or passive state of congestion an actual laceration of the finer blood-vessels takes place, which occurs so much the more easily, if the vessels have room for distention, as for example, in the brain, or in the membranes, when the epithelial covering is detached from these, as in consequence of a vesicatory.

The best idea as to the manner in which the absorption of the blood-vesicles may occur, we derive from ecchymoses occasioned by external violence. Here the fine capillary vessels are crushed together with the blood-vesicles circulating

in them, and into the interstices of the cellular tissue there is poured out still more blood, which has to run through a cycle of changes, before it is re-absorbed. For we remark that the place affected by the external violence first becomes red and blue, then blue, then blue-green, green-yellow, and finally yellow; then this colour disappears gradually, and the cellular tissue again assumes the normal appearance. It is manifest that these changes of colour can be produced only by chemical changes of the hematin, and we have here almost the same process before our eyes, as that which the blood-vesicles probably undergo through the power of the hepatic cells on the gall-ducts. On the contrary, this series of changes, which the red colouring matter of the blood undergoes in those parts of the skin which have been contused, I have not at all been able to observe in the case of petechiæ, where the blue red colour passes gradually into the clear red, the presence of which might be observed probably after disease has lasted for two months. In both these facts there seems to be contained a proof, that the blood-vesicles are not re-absorbed as blood vesicles: in the former case they, together with the other parts that have been injured, follow evidently chemico organic laws, if they have run through the series of changes, if the capillary vascular net-work has been again re-established; the cells of the same exercise on the metamorphozed constituents of the blood, the influence, which we cannot describe, but the absorption of which we observe as a consequence of it.

In actual extravasations of blood occasioned by injury of large blood-vessels, and where blood is effused in considerable quantities into cavities, matters are arranged somewhat differently. For here, because the blood has now lost those conditions which kept it fluid, a longer or shorter time after it has been effused, coagulation takes place, in consequence of which, a separation of the blood into its three natural constituents takes place. The process of absorption can be most easily accounted for, where the blood was effused into cavities lined by serous or mucous membranes, whilst the accounting for the thing is more difficult in cases where, by reason of an inflammatory process excited by the extravasation, a capsule resembling a mucous membrane, must first form around the coagulated blood, the cells of which capsule, together with those of its blood-vessels, effect absorption by their peculiar power. Since other cases do not occur to me just at this moment, I shall quote one, which fell under my observation, and which satisfied me that the resorption of the serum first commences after coagulation. The case was that of a soldier who, after an injury of the knee, had a considerable quantity of blood extravasated in the synovial capsule above the patella. As the nature of the swelling hereby occasioned could not be accurately ascertained, an attempt was made to discuss this swelling, and to promote the absorption of its contents, whether pus, liquor sanguinis, &c. by means of fomentations, solution of muriate of ammonia, and afterwards by suitable pressure. When, however, after the lapse of eleven days, the tense and elastic tumour, which however presented no redness whatever, had been but very slightly diminished, it was opened. The pitchy black blood which issued from the opening was coagulated in clots, and after standing for four hours yielded no serum. The coagulum, which amounted to about six drachms, contained a considerable quantity of fibrin, which, after pressing the coagulum through a linen cloth, remained behind as a short-grained, crummy, red-coloured mass, and did not become thoroughly white, even after lying for a considerable time in water. The cruor, when well dried, yielded, from 1000 grains, 346 grains of solid substance, which was quite black, and did not exhibit a shining fracture, as blood not deprived of its serum, and well dried, usually does. The great quantity of solid substance, obtained from the cruor, which exceeds that from ordinary blood by about 140 grains, proves to me that within these eleven days the absorption of the serum had almost been completely terminated, and the blood-clot contained only coagulated fibrin and blood-vesicles. This case was brought forward in order to afford a practical proof against the purely theoretical views of those

who maintain that blood extravasated within the cavities of the human body cannot coagulate. The views opposed to mine have been recently defended by Steifensand in his treatise on nerve and blood, which was written in order to mediate between the extremes of the Humoral and Solid Pathology; but the grounds on which his arguments rest, have been already proved false by others. In order to show on how weak a footing the arguments of the adversaries rest, I shall merely state that the sanguineous tumours in the heads of new-born infants, in which cases the blood is seldom or never found coagulated, can afford no kind of proof whatever. For the blood of new-born infants contains, as has been clearly shown, either very little or no fibrin whatever, which alone can produce coagulation. The same thing occurs in the case of sanguineous apoplexy, where the blood is not found coagulated even after a considerable time; for it is known that in 1000 grains of the blood of those affected with sanguineous apoplexy there are not as much as 2 grains of dried, or from 5 to 7 of moist fibrin present. And the case just now instanced clearly shows, that absorption does not commence with the fibrin, but with the albumen, and in general with the constituents of the blood soluble in serum. The principal reason why this takes place is, that fluids are absorbed sooner than solid parts, and it cannot be denied that the process of Endosmosis and Exosmosis must not be disregarded in the present case. And how this process may be accelerated by continued pressure of the many and valuable effects of which modern surgery has carefully availed itself, may be readily explained according to physical laws, if these could be made to account for vital actions, such as Absorption is.

With respect to the changes which the blood-vesicles of the coagulated blood deprived of their original properties run through, whether such changes take place according to the laws inherent in every organic combination or under the influence of the cells of the synovial membranes surrounding them, and their blood-vessels, whether they occur in the same way, as may be observed in the case of superficial ecchymosis, so as to become changed into matters resembling the constituents of the bile, and thus be rendered capable of being absorbed; who could ascertain all this, and what facts have been collected hitherto having a bearing on the subject? To explain how the coagulated fibrin is re-absorbed appears to me extremely difficult; it is either not taken up at all, or not till a very late period, and affords material for those indurations and concretions that remain behind, such as are observed after these extravasations. I consider it not undeserving of attention that the constituents of the extravasated blood, as for instance its plasma, evince no tendency to organization, a thing which takes place readily under other conditions, where the fibrin is not in a mass, but is either coagulated in the molecular form, or runs through a series of changes, as the exudation-corpuscles, around which cells form, or show its change into true pus. The presence of the blood-vesicles must in every case exercise a peculiar influence on the coagulation of fibrin, as we know that pure plasma without the body coagulates but very slowly. It seems probable for many reasons that the constituents of extravasated blood, in case they become re-absorbed, are no longer capable of keeping up the so-called progressive changes (formation of cells) as pathologists generally admit, but that they, entering the circulation, run through a cycle of organico-chemical changes as well through the action of oxygen, as of the changing power of the cells in the excreting organs, the ultimate products of which seem to be the constituents of the urine, bile, and sweat. This, however, depends in a great measure on the time during which the extravasated blood remained without the vascular system, before it was re-absorbed; the longer it remained so, the more depressed did the inherent powers in the blood-cells become, the more the vitality inherent in them, and the organic power of elective affinity which is in general inherent in the organic atoms yield to the influence of chemical laws, so much the less are they in a state, to be again susceptible of vitality in the mass, and so much the less capable are they of imparting this

vitality, a thing which is necessary for the progressive changes. As an instance of the contrary, the case may be adduced, where blood, after being deprived of its fibrin, being injected into the veins of a bloodless animal, re-animated this animal anew, but here the case is different, as may be readily seen.

With respect now to the absorption of pus, in accounting for which the medical practitioner is so deeply interested, I am inclined to think that we must admit that there is more than one way in which this may take place. In fact, the ideas regarding pus-absorption, and with respect to what becomes of the pus when absorbed, would not be so contradictory and obscure, if pathologists had taken the trouble, at the time the pus became absorbed from an abscess, to examine the blood as well as the excretions of the patient. The absorption of pus may, in my opinion, take place in two ways; firstly, as real pus, that is, the pus corpuscles are taken up, just as they are, by the vascular system; and secondly, the pus, before it is re-absorbed, undergoes certain changes, which render it more fitted as well for absorption, as for further elimination by the excretory organs. For both cases, pathological anatomy, as well as pathological chemistry, have collected numerous instances and observations.

With respect to the first mode, no one can deny, that the vessels can be in a perfect state of integrity. Either from the very onset, through the stasis which preceded the exudation or extravasation of the plasma, from which the pus was subsequently formed, a rupture of some vessel took place, and this continued so long, and was still further increased through the so-called dissolving power of the pus, or through the latter circumstance alone, the vessels touched by the pus were injured in their continuity and presented to the corpuscles an aperture, which could readily afford them a passage. This dissolving power of the pus, that is, its power to dispose for the same changes, which itself had undergone, the cells of several structures, which in their chemical properties resemble albumen and fibrin, this power, I say, is very similar to contagion, if not altogether identical with it. But it is by no means sufficient to have shown how, for instance, in abscesses, the first step to its absorption took place by the action of the pus itself: for, notwithstanding the opening of the vascular terminations, the pu -corpuscles would have remained quietly in their place, had not certain influences occasioned their admission into the vascular system. One of these is the pressure made by the parts inclosing the pus; for we may often observe, that the absorption of the pus goes on best, when the purulent tumour has attained its highest stage. In order to promote the absorption of pus, surgery often employs severals means, which effect either a pressure, or indirectly an energetic contraction of the parietes of the abscess. Cataplasms, besides their other effects, act in the former way. In this way, we may in part account for the effects of a treatment, which, instead of opening large abscesses, consists in touching their external covering in different places, either with corrosive substances, or with the cautery. It is evident that, by the subsequent inflammation in the external integuments, a considerable tumour is produced, and accordingly pressure is made on the pus. The other influence which contributes to the admission of pus-corpuscles into the vascular system, must be in every case the suction-power of the heart, which is so very striking on the venous system. In consequence of the stream of the circulating blood in the veins having its draw towards the heart, the pus-corpuscles, which are at the orifice, and by the vessel itself, are hurried along and carried into the circulation. This is precisely the same as when at the resolution of the stasis in the vessels the circulation begins again, which in like manner must be in a great measure set down to the account of the suction-power of the heart.

The other way in which pus may be absorbed, is as follows. I have observed in certain patients, that at the time when an absorption of pus took place, as it seemed, the urine of these patients was coagulable, and was indebted for this quality to the fibrin dissolved in the urine. In the case of two patients, of whom

the one had pleuritis, the other pneumonia, I found a serum containing fibrin in the former at the third, in the latter at the second bleeding, whilst the blood of the first bleeding presented that of the genuine inflammatory blood, and just at the same time I found the urine of both these patients coagulable from containing fibrin. Besides, I satisfied myself that this urine contained no pus-corpuscles whatever. In consequence of this, I suspected that probably the pus-corpuscles had broken down about this time by some means or other, if not into the fluid plasma from which they had been originally formed, into a quantity of small fragments or molecules, the absorption of which by the open ends of the fine capillary vessels was now easily effected. In what way and by the combination of what circumstances this breaking down of the pus-corpuscles and their re-formation into fibrin takes place, I cannot say; it is well known that acetic acid on touching pus-corpuscles, causes them to break down into small kernels; at the time I remarked the fibrinous urine, and this happened at a time when the abscess had attained its highest degree of maturity, could any acid have become developed, as lactic acid, which occasioned the breaking down of the pus-corpuscles? or did this breaking down take place spontaneously by reason of the pus-corpuscles tarrying for so long a time in the abscess? or was it occasioned through the influence of the membrane lining the abscess? who could ascertain this? I have already mentioned a mode of treatment employed in surgery in order to promote the absorption of pus, by corrosives and burning. The effect of this method is frequently astonishing, and I think that, by the action of the same process, this breaking down of the pus-corpuscles is produced. It is to be regretted, that in the case of such patients medical men have never concerned themselves, as to what became of the absorbed pus: they were merely astonished at it, muttered something of the vis medicatrix naturæ, and those who thought of the matter were of opinion that the absorbed pus, as it still contained constituents of blood, became again changed into normal blood, and was fitted for nutrition. Accordingly they advised not to open very large abscesses, but first to treat them in the way already mentioned, and subsequently, after a great portion of the pus became absorbed, to let the other portion be discharged.

I now come to the second question, viz What becomes of the pus that has been absorbed, and is now circulating, or of the fibrin existing in the blood in the molecular form? Before I enter more closely into this question, I must first recur to the traditional views entertained by those who think that this absorbed pus may again become changed into the normal constituents of the blood, and become fit for nutrition. My grounds are as follows. In the first place, we must admit that the plasma, from which the pus was subsequently formed, was exuded only for this reason, because, by its abnormal properties, whether in respect of quality or quantity or both, it so irritated the organic nerves and capillary system, together with the cells of a tissue, that from some cause or other it became converted into a locus minoris resistentiæ, so that a stasis and deposition of pseudo-plasma ensued. Accordingly, by a series of physiologico-pathological processes, the mass of blood was freed from a part of its constituents, which had now become abnormal, and which endangered its entire mass.*

* The qualitative differences of the fibrin in the inflammatory blood and of that existing in healthy blood, are observable partly through its physical, partly through its chemical, characters. With respect to the latter, there is to be found in Casper's Wochenschrift (1843. Nr. 42) a remark by professor Mulder to the following purport. "I have found in the blood a matter which is formed from the fibrin, and may be considered as oxidized fibrin. This is found in great quantity in the blood in inflammatory fevers, and, in fact, inflammation shows itself by a greater quantity of oxidized fibrin, properly speaking, protein. The old idea of inflammation is therefore confirmed. This substance may be presented

If now this pseudo-plasma, at the time it was exuded, was so defective in its quality, as not to be fit for its destination, namely, for nutrition (cell-formation), how much more truly this may be said of it, after it had run through a series of other changes. The two normal constituents of the plasma are the albuminate of soda (Natron-Albuminat), and the fibrin, with fat and some salts; we have, for instance, to consider fibrin, whose quantity as well as quality appears changed, as the proper materia peccans, whilst the albuminate of soda is probably not so, and is exuded with it merely for this reason, because with the fibrin it forms the fluid and most readily transuding constituent of the blood. Therefore, it seems very probable that the albuminate of soda may be re-absorbed, and be further subservient to the progressive changes, for which it seems to be peculiarly intended,* if absortion take place early. The fibrin, on the contrary, which is soon coagulated in the molecular form, and chiefly forms the pus-corpuscles, resists absorption on this account, and if it is ultimately again taken up by the mass of blood, it must be in a state to become subservient to those progressive changes, as it is in a great measure eliminated by the excretory organs. By a series of facts, which have been accumulated by a variety of observers from time to time, regarding the origin, nature, and importance of the fibrin in the blood, I have arrived at a mode of thinking widely differing from that usually adopted; the final result of my investigations on this point is this: that the fibrin owes its origin to the regressive cell-changes of the muscular structure, and accordingly exists in the blood probably as a purely excrementitious matter. This view is countenanced by my observation, that at the time when the absorption of the effused plasma or pus was going on, the serum of the blood of the two pulmonary patients just mentioned contained the absorbed fibrin in the molecular form. This fibrin-containing serum presented itself at the same time when these patients voided urine which contained fibrin, and certainly it is not going too far to conclude that both phenomena stand to each other in a very decided relation with respect to their cause. If then, I ask, the fibrin is destined, according to the views of almost all physiologists, as the most highly organized protein-combination for cell-formation, why should it be eliminated by the kidneys, as well in its natural form, as in various other forms of metamorphosis?†

After having endeavoured to show that probably the albuminated soda absorbed from an abscess, but not the fibrin absorbed in the form of pus-corpuscles or small solid molecules, may again become available for the purposes of

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in various ways, and most readily by boiling fibrin or albumen for several hours under the influence of the air. In healthy blood there is but little of this present. It is prepared in the lungs. The red colouring matter of the blood is accordingly not only the carrier of oxygen, but also of fibrin." [See in the preceding number of the Medico-Chirurg Review, Prof Mulder on the Oxides of Protein, where this subject is treated more in detail.—REV.]

* This is further corroborated by the circumstance, that it was not albumen but fibrin I found in the urine of the patients at the time absorption took place. If the re-absorbed albumen had not been more fitted for the progressive changes, it would probably have been eliminated by the kidneys, as well as the fibrin.

† Von WALTHER (System der Chirurgie, 1843) is of opinion, that absorbed pus is no longer capable of nutrition. He says, (p. 85), "Pus is absorbed—not however, as such and unchanged—by the veins, traverses the mass of blood, acting prejudicially on it, to the depuratory organs; in the latter it may be separated from the blood, as a substance no longer formative, becomes mixed with the excretory fluids, and is eliminated with them"—and again, (p. 86), "all formative, recrementitious, animal fluid, (chyle, lymph, blood) are coagulable. No excre-

nutrition, it still remains for me to point out the two ways in which the pus or its fibrinous constituents are further disposed of.

The first case is, that either the absorbed pus-corpuscles or the molecular fibrin are deposited in another organ, and there form a new abscess. This occurrence, which is rather frequent, was easily accounted for, as Nature herself showed that, between the first and second abscess, or the disease occasioned thereby, a causal connexion existed. If we admit that, by whatever causes it may take place, the quantitative and qualitative plasma was at first withdrawn, we must consider the first deposition of the same and the formation of abscess, which I shall call metastases of the first grade, as a critical process, which was commenced and perfected through the pseudo-plasma and the existence of a locus minoris resistentiæ. For the blood itself was thereby partly freed from the anomalous constituent. If the pus-corpuscles absorbed from the abscess were again deposited in any organ, this is in like manner to be considered as a critical process, entirely similar to the first, and it may be designated as a metastasis of the second grade; for the blood is again freed from the still foreign constituent, the pseudo-plasma. Whether this deposition, immediately critical with respect to the blood, which however draws the organ in which the deposition is made into a morbid state, is attended by favourable or unfavourable consequences with respect to the system in general, depends entirely on the place where the deposition takes place. If we suppose, for instance, that the first metastasis took place in the pulmonary tissue, and the second under the cellular tissue of the arm, whereby an abscess was formed, which broke of itself spontaneously, and healed up in a short time, every one will admit that the first metastasis was very unfavourable, the second very favourable: for by the absorption of pus from the lungs these organs were freed from the pathological state into which they would have been inevitably drawn. In the following case, which I myself saw, the very reverse took place. In a scrofulous boy, a tense tumour, about the size of a walnut, had formed beneath the mastoid process, without any exciting cause whatever, save the scrofulous diathesis. The external skin was not at all reddened; very little pain was felt This tumour, which evidently contained pus, became larger every day, so that at length it attained the size of a man's fist. As the boys' friends would not allow it to be opened, cataplasms were applied, in order to cause the abscess to break. But, instead of this, a very rapid diminution of the tumour followed, in consequence of the pus being absorbed. When this was almost entirely terminated, purulent depositions were observed to take place in the lungs, vomica formed after vomica, and the boy died of scrofulous phthisis. Obviously the first metastasis here was a favourable critical deposition of pseudo-plasma; if the abscess had opened externally of itself, or had been opened by artificial means, the boy would probably have been cured of his disease, instead of dying in consequence of the pus absorbed from the abscess being deposited in an organ which was readily destroyed thereby, the organ also being a vital and very important one. In this case the second metastasis was accordingly an unfavourable critical deposition. The favourable or unfavourable termination of a purulent deposition depends in general on the greater importance of the organ affected; then, whether this be an excretory organ or not, whether the pus can be readily removed from the body, and lastly, whether the

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mentitious, non-nutritive fluid is coagulable. Puruline (as urine, fæces, &c.) are characterized by an absolute want of coagulability, and as being non-nutritious, must necessarily be excreted." This apodictical and peremptory assertion unfortunately wants decisive proofs; nor has Von Walther followed up the inquiry, as to what becomes of the pus in the cases wherein it is not eliminated, as pus by the excretory organs, nor with respect to the ways and changes it must first run through before it can be evacuated by the excretory organs.

organ, in which it was deposited, can be readily drawn by its contagious properties into the same process through which it had itself passed. In these properties, however, may be found the natural causes why pus formed or deposited in an important organ makes a passage for itself externally. (Congestive abscesses.)

Further, the process, which is excited in any tissue whatever by the absorbed pus, in consequence of which it is again deposited, is twofold, according as the pus is absorbed as pus, or only its proximate principles, (molecular fibrin.) If the entire pus-corpuscles have been taken up in the way above-mentioned by the venous system, they either reach through the heart and pulmonary artery into the capillary structure of the lungs, or in case the purulent deposition was seated in organs, whose veins formed the vena portæ, they reach through these into the capillaries of the liver. Now, as the pus-corpuscles are in general too large to pass through the fine capillary net work in the lungs and liver, it is evident that for this reason they must begin to stop here, to accumulate and to occasion a stasis, as foreign irritants. These, then, form new pus-depositions, which progressively become greater from the constituents of the blood and of the parts of the tissue capable of it. From this simple cause it is readily explained why secondary abscesses form so frequently in the liver and lungs. If the pus deposited in the liver and newly-formed is taken up by the hepatic veins, these bring it into the heart and into the lungs. If it is taken up from these by the pulmonary veins, it may be deposited in every other organ to which the blood comes from the left ventricle. In this case secondary abscesses may form in the brain, in the kidneys, in the spleen, &c., and pus may even be discovered in the urine. If, on the contrary, the absorbed pus-corpuscles exist in the blood as molecular fibrin, as may most frequently occur, as it is very possible, that the pus-corpuscles themselves, whilst in the blood, may, through the influence of some circumstances, be broken up into separate molecules, the deposition of this molecular fibrin with serum is very easy. As these individual fibrin-corpuscles are still smaller than the blood-vesicles, they may pass with the utmost ease not merely the capillary vessels, but also the so-called serous, plastic vessels, whose existence cannot be at all denied. The pathological process excited by the molecular fibrin, appears to consist merely in a stasis, in consequence of which the serum, together with the fibrin, transudes into the serous cavities, or between the cellular tissue and fibrous membranes. Where this stasis and transudation of the fibrin-containing serum takes place, depends solely on the locus minoris resistentiæ. Otherwise it is not easy to see why, as the molecular fibrin comes in contact in the course of the circulation with all the organs, in one individual the lungs, in another the brain, &c., become the seat of the deposition.

As I myself and some other persons were the first who observed this fibrin-containing serum, it appears to me very probable that the nature of what are called cold or lymphatic abscesses, the so-called cachectic abscesses, the phlegmasia alba dolens, and a series of other pathological processes, consists in this—that amorphous masses of protein-like (fibrin) matters become deposited in the parenchyma of several organs, which matters subsequently run through a cycle of changes in consequence of which the affected organ is destroyed.—(Morbus Brightii, Tuberculosis, Scrofulosis, Furunculosis, &c.) Hunter (Blood, &c.) understood right well the nature of those abscesses, as he mentions a number of signs or marks which he had obtained by experiment whereby they are distinguished from true abscesses, and for this reason he calls them abscesses in parts. Such a case, where in consequence of purulent absorption, a phlegmasia alba dolens was occasioned, I myself once witnessed. It occurred in the case of a soldier, who laboured under pleuritis with considerable plastic effusion into the left side of the chest. At the time of the second venæsection the tendon of the biceps was injured, and whilst those physical symptoms were declining, which denoted the fluid exudation, there soon arose an enormous swelling of

the entire left upper extremity as far as the mamma, during which the external skin became of a bright red colour, and doughy. By suitable treatment the tumour gradually diminished, without pus having formed, and when the patient died, about the 14th day of the disease, the arm had the same strength as the other. On the contrary, the entire left lung was so compressed, that it was not an inch in thickness, and besides, it was covered here and there with purulent deposits. Adhesions existed only on the posterior part of the lung. I conceive this to have been a case where the exuded pseudo-plasma, which probably had become changed in a great measure into pus, was re-absorbed, and deposited from the blood into the vessels and between the sheaths of the muscles and into the cellular tissue of the arm, in consequence of the latter having become a locus minoris resistentiæ by reason of the injury done to the vein and the fibrous structure; a circumstance for which I was unable to account to myself at the time.

On the quantity and quality of the pus, as also on the irritability of the individual and some other circumstances, it depends what influence and irritation its constituents shall exercise on the nervous system. If neither the quantity nor quality be very abnormal, there may be no constitutional disturbance whatever. If, on the contrary, the quantity be very considerable and the quality be very much deteriorated, as in the abscesses of cachectic persons, in typhus abdominalis, puerperal fever, the last stage of phthisis, &c. then such an impression manifests itself on the blood and the nervous system, that adynamic or putrid fever, delirium, subsultus, &c. are soon developed. The most favourable way in which the absorbed pus-corpuscles or the molecular fibrin can be removed from the body, is through the excretory organs—the skin, intestinal canal, and kidneys. With respect to the latter, the cases are very numerous where real pus-corpuscles are observed in the urine: in variola at the time of exsiccation, in empyema, pleuritis, pneumonia, &c. at the time of resolution, purulent urine has been observed. It is evident that in these cases laceration must have taken place in the renal vessels, in consequence of which the pus-corpuscles were pushed forward into the calices of the kidneys—that the absorbed molecular fibrin existing in the blood at the time of the pus-absorption was in a similar manner eliminated by the kidneys I have already stated. As the molecular fibrin may pass very well through the finest capillary vessels of the kidneys, as well as of the renal canals, its passing into these takes place very simply by transudation, which is further assisted by the affinity which the molecular fibrin, existing in the blood as excrementitious substance, seems to have for the renal cells of the renal canals, as well as by the appropriating power of the latter. I cannot help again thinking of the case mentioned by H Nasse in his Physiological and Pathological Enquiries, in the person of an ecclesiastic whose urine for a long time contained so much fluid fibrine, and frequently fibrin coagulated in the bladder, that the urine after perfect coagulation looked like jelly. And with all this the patient became very little or not at all emaciated. Neither myself nor Nasse were able to find blood corpuscles in this fibrinous urine, a proof that no laceration took place of the capillary vessels in the kidneys.

Thus either the pus-corpuscles or the molecular-fibrin are directly eliminated through the kidneys, and good proofs of this may be adduced, or these protein organic matters, by coming in contact with the oxygen of the air in the lungs and the capillary vessels of the external integuments, undergo such a chemical change, that they are broken up either immediately in the blood, or by the changing power of the excretory glands (kidneys, cutaneous glands) into the products appertaining to the regressive transformations, as urea, urate of ammonia, lactate of ammonia, uric acid, phosphates and sulphates, or into crystallized triple-phosphates by combination with ammonia which has been set free. This, and the occurrence of coagulable urine, are cases where practitioners were unable to account to themselves, as to what became of the pus from abscesses, which

were so large that perfect absorption was not to be expected; but this could only be concealed for this reason, because they neglected to examine the urine of their patients.

I am now come to the point where I stopped in my paper on the urinary crisis in inflammations, published some time since, namely, that of proving that the pathological positive changes observed for the entire duration of a disease, stand with the transformations of the blood-constituents recognised as the materia peccans in the relation of effect to cause. This cannot be shown better than in the case of patients whose disease is not accompanied by fever, because one might feel himself justified in setting down to the account of such reaction the anomalous constituents in the urine. The urine containing fibrin, urate of ammonia or crystals of uric acid, must be indebted for these more anomalous constituents only to the absorbed pus; for in the patients, whose history I shall briefly notice, there are no circumstances which could have produced them in any other manner. Sediments of urate of ammonia or of pure crystals of uric acid can of themselves be but seldom produced in the urine of healthy men, and they are then indebted for their production to a combination of circumstances, which leave no doubt, that on the part of the vital process which comprises the regressive transformations, changes have gone on, which are still within the limits of health.

The series of changes which the fibrin undergoes through the action of the oxygen in the blood, and probably also in the cells of the excreting glands, are, according to Liebig, probably as follows: the fibrin is broken up first into urate of ammonia, choleic acid, sulphur, phosphorus, and phosphate of lime; the urate of ammonia by the further action of oxygen into urea and carbonic acid; the choleic acid into carbonic acid and carbonate of ammonia; the sulphur and phosphorus into sulphuric and phosphoric acids, which, combining with an alkali or earth, form sulphates and phosphates. If it should happen that the quantity of oxygen taken in is not sufficient completely to accomplish this cycle of changes, then, instead of urea, either urate of ammonia, and if the ammonia have entered into any other combinations, pure crystals of uric acid, or fibrin itself, appear in the urine. By taking into account those circumstances which made the oxygen taken in insufficient, we shall always be able, in the particular case, to account to ourselves with respect to the origin and appearance of those abnormal constituents of the urine: these circumstances may for instance be founded on the insufficient quantity of oxygen contained in the air, in a deficient quantity of oxygen taken in, the causes of which may lie in a morbid state of the chest, of the lungs, of the respiratory nerves, in a defect of blood-vesicles, &c. or in a morbid state of the skin, or in a depressed state of the peripheric circulation, or, in fine, in too great an accumulation of excrementitious substances. Whether the pus-corpuscles are in like manner capable of running through these changes, I shall not venture to determine; but that the molecular fibrin does so, of that I have satisfied myself by a series of experiments.

In some cases of disease which I shall mention presently, I shall take the opportunity to adduce proofs in support of my assertions; though such cases might inspire no interest, if they had been observed, as unfortunately such cases have been constantly observed, they however possess this advantage, that of allowing us to look into the nature of the pseudo-plastic processes in general.

The first patient on whom I observed that at the time of the ripening of the abscess the urine evinced morbid changes, was a soldier who was after being affected with erysipelas of the face. At the period of the decline of the disease, the urine, which previously yielded a lateritious sediment, had now become quite pale and watery, without being coagulable, and the desquamation of the skin extended from the head over the entire body. At this time, the circulation in the peripheric vessels of the skin was almost entirely depressed; the skin was dry, friable, parchment-like, and never transpiring. As the patient had several

abscesses at the time, on the head, on the neck, on the thigh and leg; every time this or that abscess was brought to maturity by the application of cataplasms, I found the urine coagulable through its fibrinous contents; now, if the abscess was opened, it no longer contained any fibrin, but, in one or two days, uric acid crystals were deposited at the edge of the urine-glass. These abscesses may be considered as supplementary crises of the erysipelas, though their origin may be derived from another source: none, however, will deny that the pathological change in the urine corresponds with the absorption of pus. The circumstances here, which rendered the action of the oxygen on the blood insufficient, are in the first place, the quality of the skin, the vessels of which carried very little blood; the respiratory function, which was much depressed through the debility of the patient, and the slowness of the circulation, and, lastly, the excessive mass of the fibrin in the blood, which was to be acted on. For we see that, after opening the abscesses, whereby the further absorption of pus was put a stop to, no longer fibrin, but uric acid, appeared in excessive quantity in the urine, whereupon the urine again became normal. Güterbock mentions, from Schönlein's Clinique, a case of rheumatism of the abdominal muscles, where an abscess formed, but the pus had evacuated itself externally through the rectum. Here no sediments were observed in the urine, for this simple reason, that the pus was not absorbed; but whether, before the discharge of the pus, the urine contained anomalous constituents, has not been stated. It might be possible, however, that by the application of cold, sediments of urate of ammonia, or of uric acid crystals, might be occasioned in the urine. The patient, of whom I have made mention, had at the time no fever, nay, rather a retardation of the pulse, and his skin was not at all in a state of transpiration. His blood, as well in consequence of the treatment (a blood-letting and antiphlogistic medication) as also by reason of the entire morbid process, (phthisis,) contained but very few blood vesicles In this lay another cause why the absorption of oxygen took place so insufficiently.

II. The soldier, Graaf, with brown tint and black hair, had in the March of this year a porriginous eruption of the back, and at the same time periostitis of the portion of the occipital bone, which passed quickly into suppuration. Three other soldiers were suffering at this time under the same form of disease. The patient came, on the 16th of March, into the Lazareth; he had no fever. To the tumour, which was now of a considerable size, and tolerably hard, cataplasms were applied; the patient took no medicine internally. From the 17th the urine was of a yellow turbid appearance, was very acid, and threw down a very copious precipitate of crystallized uric acid. Notwithstanding this, it coagulated on boiling, and contained fibrin. Three days after, it became alkaline, and besides the uric acid crystals, it contained also triple-phosphate. On the 18th, the swelling had become considerably smaller and less painful. The urine was very much saturated, and, at 2° R., threw down a lateritious sediment, which the urine of the other soldiers, subjected to the same regimen, did not do. Fever had not even yet become established. On the 19th, the tumour had almost entirely disappeared under the use of cataplasms; the urine threw down no sediment, but on boiling it became very turbid, and contained fibrin. Three days after it was alkaline. On the 20th, 21st, and 22d, the tumour was still further diminished; nothing anomalous in the urine. On the 21th, in consequence of taking cold, the inflammation was again become violent, and the tumour was as large as at first. No fever. The urine looked somewhat turbid, but did not coagulate on boiling, but rather became clear thereby; on cooling, it threw down a lateritious sediment. The cataplasms were continued. On the 25th, the tumour had become larger; the urine was of an amber colour, very acid, threw down a sediment on becoming cold, and did not coagulate on being heated.

On the following day, the tumour began to fluctuate, and had become tolerably

soft; at 5° R. the urine threw down a lateritious sediment. On the 27th, the urine had a sediment, and did not coagulate; a cloud floated on the surface, which consisted of mucus-corpuscles. The urine was very acid; but in four days it became alkaline. On the day after, the abscess was opened, and good pus discharged: nothing abnormal in the urine, and the abscess healed very rapidly under the use of cataplasms.

We here see that, about the time when the tumour became smaller, and when, therefore, the absorption of pus was going on most rapidly, (on the 18th and 19th,) the urine contained the most anomalous constituents, fibrin and urate of ammonia; after the absorption had terminated, we see the urine quite normal; (from the 20th to the 23d). Subsequently, on the relapse, at the time when the abscess was again approaching being ripe, the urine again threw down the lateritious sediment.

It would be very interesting, if we could ascertain, by observation, how long a time an abscess requires, before the pus contained in it becomes perfectly absorbed, and eliminated by the excretory organs; and whether this whole cycle of transformations would be confined with the three and a half days' type, as we see in other acute diseases. But such a natural method of cure would be a great reproach to art, as by opening and discharging the abscess we possess the means of completely putting a stop to the morbid process excited by the pseudo-plasma, whereby its deposition amongst the external integuments and the superficial glands would be occasioned. For either a second deposition may follow the absorption of the pus, and that, too, into an important organ, or induration takes place. This latter termination seems to me to arise from the circumstance of the fluid parts being first absorbed from the abscess; then the more organized matter is taken up, so that at length the phosphoric salts and the phosphate of lime with some organic matters remain behind. This is the origin of most concretions. The same process takes place in what Bayle calls the phthisis calculosa. For the chalky concretions which contain 96 per cent of saline and earthy matter, and only four of animal matter, are in all cases formed by the absorption of the fluid tuberculous mass.

These considerations respecting the absorption of pus, have been communicated thus fully for this reason, that they may serve as a sort of commentary for a series of other morbid processes, wherein the same occurrences take place in a similar manner, as, for instance, in pneumonia, pleuritis, erysipelas, &c. but in which, by reason of their more complex nosology, it cannot be demonstrated so clearly that the pathological changes in the urine are closely connected with the organico-chemical transformations of the materia peccans.

REMARKS ON LIEBIG'S "ORGANIC CHEMISTRY IN ITS APPLICATION TO PHYSIOLOGY AND PATHOLOGY;" as also on the Application of Chemistry to Medicine in general. By *Professor Schultz*, of Berlin.

ORGANIC Life is every where accompanied by chemical phenomena: and Medicine, in consequence of this circumstance, is every where coming in constant contact with Chemistry. But it is of great importance correctly to understand the nature of this contact, in order to make a judicious application of Chemistry to Medicine. Life being accompanied by chemical phenomena, many persons imagined, and still imagine, that Life itself is chemical—to this class Liebig belongs. What is called "the application of Chemistry to Physiology and Pathology" is really the substitution of Chemistry for Pathology and Physiology. This is the true sense of all modern treatises on Chemical Physiology, Physiological Chemistry, &c. &c. They contain chemical explanations of Life itself, and such an attempt at chemical explanations of Life in health and in disease is

Liebig's work. Instances of a somewhat similar tendency have been witnessed to no end in medicine; at all times a desire to find the vital philosopher's stone in chemistry has been evinced, and various explanations of Life have been given —modified only by the existing state of chemistry. Liebig's Theory of Life is essentially a chemical combustion theory, wherein Life is compared to fire and analogous chemical phenomena of oxidation. Liebig has divided his work into three parts: 1. The chemical process of respiration and nutrition. 2. The chemical process of the transformation of tissues. 3. The phenomena of motion in the animal organism.

In the first part, Leibig says, that the greatest physiologists have been far removed from a knowledge of the laws of purely animal life. "None of them had a clear idea of the processes of development and nutrition, nor of the true causes of death. They accounted for the most recondite psychical phenomena, and were not able to tell what is Fever, and how bark acts in curing it. The solution of these points is reserved for Chemistry." Liebig's mode of explaining these matters, is as follows. Every motion, every manifestation of power, is the consequence of the transformation of the tissues, or of their substance; every idea, every feeling is followed by changes in the chemical quality of the secreted juices; every thought, every sensation is accompanied by a change in the chemical composition of the cerebral substance. From this it must be inferred, that the chemical changes are the cause of the vital powers. "The only known and ultimate cause of vital action in the animal, as in the plant, is a chemical process." (See Lieb. Eng. Trans. p. 6)

The food serves the purpose of compensating for the consumed material in the body, and thereby of producing power. The power arises from the material being set in motion from its static equilibrium, and again passing into static equilibrium. Chemical Affinity is the power that sets in motion. Its action is more particularly seen in the phenomena of Respiration and Nutrition, and all the vital properties arise accordingly from the mutual action of the oxygen of the air, and the constituents of the food.—(See L. p. 10) Life consists in a constant waste of substances, and conformably with this in a constant supply of substances in the form of nourishment, and of the oxygen of the atmospheric air, which serves for the combustion of the materials of nutrition. It is readily seen that this view is a repetition of the old Aristotelic and Baconian consumption-theory. Bacon, in his celebrated work. "Historia Vitæ et Mortis," which served as the groundwork of Hufeland's Makrobiotik, brought forward the same theory, and the reparation of the body by means of the food. The theory of combustion adopted here is modified only through the progress of chemistry. Liebig naturally enough takes it up in the spirit of Lavoisier's discoveries, about which Bacon knew nothing.

Liebig's book next treats of the subject of statics, wherein the pound and the cubic foot of oxygen are calculated according to Lavoisier's well-known experiment, which are the quantities the lung takes in during respiration, in comparison with the quantities of Hydrogen and Carbon, which are present in the expired and vaporized water, and in the expired carbonic acid. The supply of carbon and hydrogen is effected only by nutrition. An adult consumes in his food daily about 13 ounces of carbon, and in order to burn this and convert it into carbonic acid gas, about 37 ounces of oxygen. The nitrogenous constituents of the food, as albumen, caseine, come forth again after this transformation, as uric acid and urea in the urine; but Liebig has instituted no comparative calculations between the quantities of nitrogen in the urine and in the consumed food; had he done so, he would have found, that the urine contains only an inconsiderable quantity, compared with the nitrogen contained in the food. His calculations have reference only to the combustion of carbon. Liebig views the constituents of the blood only as fibrin and albumen, and considers that these are formed solely from articles of food containing nitrogen. The substances containing carbon, as but-

ter, sugar, starch, can, according to him, supply none of the constituents of the blood (p. 52). They merely serve the purpose of supporting the combustion. But with respect to the form in which the carbon is communicated to the lungs for combustion, we are told nothing.

It is evident here, that Liebig seems to forget important physiological facts, viz. that not merely fibrin and albumen, but fat and colouring matters are chemical constituents of the blood, and that the fat is contained in the young vesicles in excessive quantity, which are formed from the fatty globules of the lymph.

By means of his combustion-theory, Liebig now endeavours to account for two phenomena, namely, the production of warmth, and the formation of fat in animals. Here Liebig strives to make Lavoisier's theory, according to which animal heat is occasioned by the combustion of hydro-carbon in the lungs, directly available against those, who would ascribe the production of warmth to the nervous system. However, to contradict the opinion of the origin of heat being from the nervous system, and to prove that heat has its origin from the combustion of oxygen and hydrogen, are two very different things. Liebig's argument for the latter view of the matter is as follows: the animal body is like an oven, which we supply with fuel. If it is cold, we must, in order to keep the oven warm, introduce much fuel: if it is warm, the oven does not cool so much, and we require less fuel. Accordingly, in Winter, and in the Polar Regions, the necessity for food containing carbon and hydrogen increases. In warm climates the necessity for food is not at all so great, because the body does not require to generate so much heat. The warmer we clothe ourselves in winter, the less food we require, because so much heat is not lost. If we went naked, like the Indians, we should require to take much more food as fuel.

The Neapolitan cannot take in more carbon and hydrogen in his food than he exhales, and the inhabitants of the Polar Regions cannot inhale more carbon and hydrogen than he has taken in his food. The predacious animals of the Northern climates surpass all others in voraciousness. These, and other inferences, Liebig proves, from the well-known phenomena, that man lives more moderately, in general, in warm than in cold countries, but rather unsatisfactorily: partly because they are brought forward with considerable contradictions, and partly because they are laid down without a knowledge of their connexion. The contradictions consist in this, that Liebig, according to his theory, at once admits that it is only vegetable food, food abounding in carbon, that is principally adapted for combustion, animal substances, containing nitrogen, being less suited for the production of heat: and still he brings forward the voraciousness of the predacious animals of the north for flesh, and, consequently, for nitrogenous food, which, according to his own theory, cannot burn, as a proof, that here a powerful combustion-process must take place in order to generate heat. According to Liebig's theory, in cold countries no flesh at all should be eaten, but only vegetables, because these latter favour the combustion-process powerfully, whilst flesh favours it but very inconsiderably.

But the phenomena are stated without a knowledge of the connexion, because the general observation, that the inhabitants of cold countries eat much, and those of warm countries eat little, is by no means correct. The truth is, that in cold countries more flesh and less vegetables, in warm countries, on the contrary, more vegetables and less flesh is eaten. There surely is no great moderation in a man in Persia or Arabia eating every day from 20 to 30 pounds of melons and other fruits, and the large-paunched Negro does not display this assumed abstemiousness of the inhabitants of the Tropical climates. Further, this combustion-theory contradicts, in the most decided manner, ordinary experience. According to Liebig's theory, vegetable food should be heating, and animal food cooling. But every day's experience, both in the case of men and animals, teaches the direct contrary. Meat diet has a heating, vegetable diet has

a cooling effect. Accordingly, the roots, fruits, and seeds which, according to Liebig's views, promote combustion, diminish the heat of the body; whilst the slightly combustible muscular flesh increases this to a high degree. Graminivorous animals possess but a small degree of bodily heat, and for this very reason, they cannot hold out in high latitudes; the carnivorous animals, of all countries, are from two to three degrees warmer than the graminivorous. It is the same with man. The inhabitants of the Polar Regions sustain themselves merely by the heating effects of flesh diet; they eat scarcely any vegetables, and would become frozen if they did. In the Tropical Regions, the inhabitants keep themselves cool by living on vegetables, and avoiding, or cutting short, the proportion of flesh diet.

Liebig has, to be sure, stated that, in consequence of the small amount of carbon contained in flesh, men and animals were obliged to consume large quantities of it. Now this is also experimentally incorrect; we rather see all carnivorous animals take much less food, for which reason, too, they are very slender; whereas, on the contrary, the mass of food of herbivorous animals is enormous; their digestive organs are also constructed so as to suit these great masses of food. Liebig should have calculated what heat an elephant must have, according to his theory, who consumes daily 100 weight of hay, potatoes, and corn. But still, elephants are so very much affected by cold among us, that they can scarcely hold out without brandy.

These, however, are not the slightest objections against the production of heat by combustion through the medium of the Respiration. The heat in certain parts of the body is raised or depressed independently of the respiration. Paralysed limbs become cold, whilst the respiration still continues. In inflamed parts of the body, the heat rises from four to five degrees: the stomach becomes two degrees warmer in digestion: when the depuratory substances are retained in the blood, for instance, after removal of the kidneys, the heat rises six or eight degrees; the same thing occurs in several cases of fever, where the respiration is not at all raised. How can combustion take place here?

The theory of the combustion of hydrogen militates against several physiological experiments. Watery vapour is exhaled from the lungs when no oxygen gas whatever was inspired; when hydrogen or pure nitrogen was inhaled. How could it be formed here by combustion? In another work of mine, I have demonstrated that the source of heat lay in something altogether different, namely, in increased excitation of the blood-vesicles, and in the formative process increased thereby; hence, animal food abounding in nitrogen, which promotes the formation of the blood-vesicles, likewise increases the heat without reference to combustion: whereas, on the contrary, vegetable food abounding in carbon, because it rather promotes the formation of the nuclei in the blood vesicles, and diminishes the vesicle-formation itself, does not favour the production of heat.

Liebig's theories regarding the formation of fat, and the consumption of fat, are disposed of similarly. According to these theories, the fat is to be the fuel for the organic heating process. According to Liebig, the hungry man wastes away, because, for want of fuel in the food, the oxygen burns down the fat. Now, even though one should ascertain the way by which the oxygen is to reach the fat, there still remains this difficulty, viz. that it is not the fat alone by whose disappearance the hungry man becomes emaciated. All the tissues, even those containing but little carbon, as the muscular, nervous, and albuminous tissues, which cannot at all burn, become absorbed, and not the fat merely. The same action which absorbs the incombustible nitrogenous tissues, absorbs the fat also. Liebig says, that for want of oxygen, and from diminished respiration, as in animals in a state of rest, fat is formed because all the carbon cannot then be burned down. This is not true. It is quite an error to suppose, that animals fattened in a state of rest, breathe little and form but little heat; on the other

hand, the respiration and the formation of carbonic acid is very considerable, the heat of the animals is very great, and, for this reason, they fatten better in cool weather than in great heat. The formation of fat depends rather on the action of the digestive apparatus, the quantity of the bile, and the way in which the chyme is neutralized by it. The state of rest in which animals may be kept, acts much more on the digestive process than on the respiration. And besides, fat is something else than mere carbon. In the second part of his work, entitled "Transformation of the Tissues," Liebig treats of the various chemical transformations of protein, a substance which he endeavours to show to be the fundamental element of all organic structures; the latter being merely modifications of protein. He compares the chemical composition of protein with that of the other organic structures, and makes it appear that they all agree in consisting of certain proportions of carbon, oxygen, hydrogen, and nitrogen. This, however, is mere chemistry, and has nothing whatever to do with physiology. The real differences of the organic structures lie not in the chemical material, but in the organic form, in the globular, fibrous, tubular, &c. formation.

In the third part, entitled the Phenomena of Motion in the Animal Organism, Liebig endeavours to find the fundamental seat of the moving power in the chemical change of substance. As the galvanic power, which is formed by the contact of two metallic plates with an acid, is dependent on the continuance of the chemical action, so the vital power, according to Liebig, is connected with the change of substance, which arises more especially from the chemical action of oxygen. Thus, life is to consist in a waste and new supply of substances through changes of substances. Now, as different individuals waste in twenty-four hours an unequal quantity of the parts of their bodies, a state must take place, where the voluntary motions are suspended, in which no waste takes place. This state is sleep. On waking again, the equilibrium of wasting and renewal of substances is restored. This is the chemistry of sleep. We have a similar chemistry for syncope, paralysis, &c. Heat accelerates the change of substance in the living body; it occasions, therefore, an increase of the mass, and of the vital power in the different periods of life; cold, on the contrary, suspends the change of substances. This furnishes us with the chemistry of growth, and of the decline of the vital power in old age.

Besides all this, Liebig has given us a chemistry of disease. According to this, disease is a disturbance in the equilibrium between supply and waste of substance. As in reference to the normal supply and waste of substance, Liebig compares man to an oven to be heated, so, in the case of disease, he uses the comparison of a self-regulating steam-engine. If an intense heat occasion an abnormal change of substance in the case of cerebral congestion, cold water is employed, in order to reduce the heat, and moderate the change of structure. When, in consequence of a morbid change of structure, a greater proportion of power is generated than is required for the production of normal motion, acceleration of the involuntary motions take place. This is fever. When the excess of power, occasioned by the change of substance, is thrown upon the voluntary motion, a febrile paroxysm is occasioned. In all these cases, we have only to see, that fever does not consist merely in accelerated involuntary motion; further, that it is not all the motions, but only those of the heart, that are accelerated, and not those of the intestinal canal, and that the paroxysm is a somewhat different thing from accelerated voluntary motion.

In conclusion, we have also a chemical theory of respiration. This is founded on the iron contained in the blood, and on the reciprocal action thereby occasioned between the blood and the oxygen of the air. According to Liebig, the blood-corpuscles of the arterial blood contain a combination of iron saturated with oxygen; this, while passing through the capillary vessels, gives a portion of its oxygen to certain constituents of the animal body, in order to produce the change of substance and the secretions; but the greater part of its oxygen is

combined with the substances of the body, that have now become lifeless, which then make their escape out of the body as oxides. On the way from the capillaries to the heart, the iron combinations of the blood-corpuscles, which gave away the oxygen, take up carbonic acid gas; the blood thereby becomes venous and so reaches the lungs. Here the organic iron-combination receives a compensation for its lost oxygen, and in consequence of the new accession of oxygen in the lungs, the carbonic acid of the blood is given off. All the matters present in the venous blood, which have an affinity for oxygen, except the iron, become more highly oxidized; a quantity of carbonic acid is produced, of which there is always a portion present in the blood. This carbonic acid is partly combined with soda, and is equal in both kinds of blood, because they have the same temperature. (Now they have not the same temperature, the arterial being one or two degrees warmer.) But more carbonic acid can be produced in the arterial blood, because it takes in oxygen. According to this, Liebig establishes two processes of oxidation: the one being in the lungs, whereby the temperature of these organs is kept up, and the other in the periphery of the body, whereby its temperature is sustained.

Now the principal thing to remark here is, that physiological observations prove, that the absorption of oxygen through the blood-vesicles proceeds not at all from the chemical matters therein contained (which yet could only be the colouring matter,) but it is occasioned solely by the vital contractility of the vesicular membranes, which include the colouring matter; further, that physiological observations show, how the formation of the colouring matter in the vesicles is only an effect of the absorption of oxygen, inasmuch as the originally colourless vesicles, which certainly do not contain iron, become red only through the absorption of oxygen. (This we have proved in our Essay on the Circulation.) Both in the embryo and in the formation of blood during or after digestion the vesicles are at first quite colourless, and they only become red in proportion as they absorb oxygen. We have further shown that the capability to absorb oxygen diminishes in the older vesicles, according as the colouring matter and the contained iron increases; accordingly those vesicles, which, according to Liebig's theory, should possess the greatest power of absorbing oxygen, because they contain most iron, have the least, and ultimately no power at all, of attracting oxygen.

In all these hypotheses it is not taken into consideration, that the human body must become dissolved like a saline solution, if it merely consist of substances without organic form, organic form being presupposed as necessary to all vital action. It is further to be considered, that all substances brought to the body become assimilated to the organic form, and that the quality of the substance must be annihilated, before the body can receive nutrition from it. It is only from the organic form the vital powers can be derived. This it is which can re act against external stimuli; but in such case it only shows a change of form, and no change of substance, because the quality of the substance is entirely suspended. It is not till after the cessation of life and the destruction of the organic form, that the qualities of the substance are again brought forward.

The absorption of oxygen in the lungs, and the reception of nourishment, do not then produce life, as Liebig assumes, through the transformation of substances, but the self-excitation of the organic form occasions their reception and elaboration. In so far as a change of substance takes place at the commencement and at the termination of life, at entering and making an exit from her portals, this is the effect and consequence, and not the cause of life. In the living organism itself there is only a change of forms. It is only the vital conditions and the vital residues which indicate chemical actions. Nor must we close our eyes to the important fact, that, in undertaking a chemical experiment with an organized structure, the organic form disappears in the substance, and no vital excitation any

longer remains in it; whilst, on the other hand, it is impossible to call forth any vital action from the chemical substance.

Because chemical phenomena go hand-in-hand with life, some persons have been erroneously led to believe, that these phenomena exist in life itself. But such is not the case. There is an eternal struggle between life and death, which the body has to sustain with the external world, whilst it assimilates the various substances to itself. The essence of life does not lie in these substances, nor in their ingress or egress from the organism.

If we now consider more attentively the contents of Liebig's book, we find that it treats of the mechanism of the actions of organic life, as also of their chemistry. Liebig, in taking the mechanism of the vital actions (the manifestations of power,) and the chemistry of the vital conditions and of the vital residues for life itself and its causes, is involved in a delusion, by which, in the successive relations of life to the external world, he is led to take that which is consecutive and chemical for that which is originally vital, and vice versa, just as he everywhere confounds causes and effects with each other, and constantly takes a part for the whole, by identifying individual chemical and mechanical relations to the organism with the nature and essence of the entire organism, whilst he entirely overlooks the wide field of the truly organic and vital phenomena. Liebig is constantly under a gross delusion, fancying that he is engaged with physiology, whilst he is really stuck fast in the very midst of chemistry. In consequence of the erroneous idea, that the vital phenomena must be explicable from the chemical theory of change of substance, he everywhere converts the means into the end of organization; the end of organic life being altogether overlooked and unnoticed by him. All he says, regards only the ways and means whereby the organization attains its end.

There is not a doubt that the knowledge of the ways and means which organic life employs to attain its end, appertains to the knowledge of life. Care should be taken duly to distinguish means and end, and not to confound them, as Liebig has invariably done. Supposing that what Liebig asserts in the first part of his book were correct, viz. that the supply of air and food were in a sort of static equilibrium with respect to each other, so as to become mutually dependent on each other, still it does not follow, as Liebig will have it, that the true ends of life consisted in the interchange of substance between the oxygen of the air, and the carbon and hydrogen of the food, and that the living body is nothing else than an oven or a steam-engine, to which Liebig so often compares it. The living end might make use of such mechanical and chemical means, without being mechanical and chemical itself.

The imperfection of Liebig's book goes much farther on this point, than might appear at first sight. For this dependence of the inspired air on the food, and the mutual demand for the carbon and hydrogen of the food and the oxygen of the air do not exist in nature, in the manner that Liebig states. We shall mention one instance. Liebig says, the time in which a starving man dies, is regulated by the state of the fat of his body, by the amount of his motion, by the temperature of the air, and lastly, it depends on the presence or absence of water. This is explained, as if the starving is a combustion-process, wherein death follows; the fire goes out, because no more fuel, *i. e.* fat, which for want of food serves as fuel, exists in the body. On the other hand, the fat in the body is consumed sooner when the respiration is excited by motion and exertion, and accordingly the fire goes out so much the sooner, the greater the draught of air is. The more deficient the water is, the more is the combustion accelerated. The peculiar cause of death by starvation is therefore the respiratory process. This is Liebig's mode of expressing it.

Unfortunately for all this reasoning, the first and leading proposition is incorrect; scil. that the time in which a starving man dies is regulated by the quantity of fat collected in his body. For graminivorous animals, in which alone much

fat is formed, no matter how fat they may be, always die in a much shorter time than carnivorous animals, in which, generally speaking, scarcely any fat is formed. A meagre, carnivorous animal, a dog, or a cat, may fast from four to six weeks, before it dies; most animals of prey are forced to remain hungry for the length of a week, before they can alight on any prey; and during this long time they sustain themselves without any fat. A graminivorous animal, a fat sheep or a fowl, with all their fat, cannot fast much beyond eight days. This is the real physiological fact, one however which suits very badly the chemical starvation-theory. That during starving, fat is absorbed if fat exists, is quite true, but it is not merely the fat, but all the other organic structures are also absorbed, the albumen, the muscles, the nitrogenous substances in general, which are not at all combustible.

But supposing that during hunger fat only were absorbed, and that the oxygen really consumed the fat, could death be occasioned by the combustion of fat? Would the peculiar cause of death, as Liebig says, be the respiration? According to his own theory this would be impossible. Liebig's leading proposition is, that organic life is founded in the change of substance, and the change of substance in the combustion-process through the respiration. In other words, then, the respiration is to be the real cause of life; to prove this proposition, is the earnest endeavour of the entire of Liebig's book. But he now tells us that in death by hunger the respiration is the cause of death: so that he makes no distinction between life and death.

Now what is the ultimate end of starvation? It is this; that the organic excitement is destroyed and the organic form is lost. But in the case of starved persons this takes place rather through putrefaction than through combustion. Through hunger the entire body passes ultimately into a state of internal decomposition; the lungs exhale ammonia instead of carbonic acid; so much so that the respiration dies the blood putrefies. Liebig seems not to be aware of this.

Liebig further says, carnivorous animals and man would have too little carbon and hydrogen in their nitrogenous food to supply the lung with materials for combustion. They are therefore obliged to consume a great quantity of food merely to create carbon for the lungs. An Indian, when deficient in vegetable food to mix with his flesh-meat, must consume five times as much flesh as vegetables, in order to create the necessary quantity of carbon for respiration. For the same reason it is that lions and tigers are so voracious. In warm countries the respiration is diminished, and therefore man requires to eat less. But here Liebig has allowed himself to be led astray by the ordinary mode of speaking with respect to the voraciousness of predacious animals. Notwithstanding their voraciousness these animals do not eat half, nay, not even the fourth part as much as herbivorous animals, which are eating the whole day, whilst carnivorous animals eat but seldom. This truth is therefore not suitable to Liebig's theory. Hence we may see that the quantity and quality of the food of man and animals must have quite a different end from that of being subservient to the combustion-process. Flesh-meat is difficult to be procured in warm countries; when taken in large quantity, it readily passes into chemical decomposition in the intestinal canal. In tropical climates much vegetable food is required, notwithstanding the diminished combustion (according to the chemical theory.) Liebig with his chemical physiology never comes to the true ends of life. According to his theory, these ends are eating, drinking, digesting, and sleeping. With this physiology he never gets out of the intestinal canal; but constantly sticks there in a state of chemical decomposition. Physiology is by him converted into chemistry, and organic life is accounted for on inorganic principles. It is plain that, however correct the doctrine may be of the chemical changes of various substances outside the body, the end of life must be something else besides that of changing substances, and that no change of substances

is ever able to produce the interesting series of vital phenomena, which present themselves in the organism. It is no doubt highly interesting to become acquainted with the relations of the external world and the organic, to see what the organism receives from the external world, and what it gives back to it in return. These relations, however, appertain not to the interior machinery of the organization itself; these relations are not life, but the means and accidents of life.

In conclusion, we must observe that it is not Liebig alone who has become involved in the errors now pointed out. Many others are in the same case. Only Liebig, being less aware of the difficulties which met him in the domain of physiology, or of the dangers to which he was exposed therein, was led away so as to penetrate farther in this erroneous direction than he would otherwise have ventured. Liebig's deserts in the department of chemistry, as such, we acknowledge with pleasure; they possess the highest interest for the physician on the important subject of the residues of life; but we consider it our duty strenuously to oppose the erroneous application of chemistry to physiology, wherein the doctrine of change of substance and of the chemical process is mistaken for the doctrine of the vital process, fearing lest such erroneous application may occasion an injurious re-action on practical life.—*Condensed from the Beiträge zur Physiologischen und Pathologischen Chemie und Mikroscopie, &c. Berlin*, 1844. *By Dr. Fr. Simon.*

MENTAL HYGIENE: OR AN EXAMINATION OF THE INTELLECT AND PASSIONS, DESIGNED TO ILLUSTRATE THEIR INFLUENCE ON HEALTH AND THE DURATION OF LIFE. By *W. Sweetser*, M. D. (Reprinted from the American Edition.) Edinburgh, 1844.

THE close and intimate connexion between mind and body, the reciprocal influence so constantly maintained between both, may be said to be self-evident. So obvious indeed is this mutuality, and so palpable is the constant interchange of influence subsisting between our mental and corporeal natures, that they can hardly have escaped the most inattentive observation. We every day see that the functions of either being disturbed, more or less derangement will invariably be reflected to those of the other. There is no bodily frame so strong as to escape suffering, when the mind has been agitated and afflicted; nor any mind so firm, as to remain unharmed amid the infirmities and sufferings of the body.

The object of the work now under consideration is to elucidate the influence of intellect and passion on the health and well-being of the human frame. There is good reason to believe that this influence has been but very imperfectly understood and appreciated in its character and importance by mankind in general. Few have formed any adequate estimate of the sum of bodily ills which have their source in the mind. Even the members of the medical profession, habitually concentrating their attention upon physical, are too prone to neglect the mental, causes of disease; and thus may patients be subjected to the harshest medicines of the Pharmacopœia, the true origin of whose malady is some inward and rooted sorrow, which a moral balm alone can reach. The present work is divided into two parts. Under the first, the author considers the intellectual operations in respect to their influence on the general functions of the body. But the effects which they induce in the animal economy being less strongly marked, and less hazardous to its welfare, than those belonging to the passions, comparatively little space is devoted to this division. Indeed, when pure, or as much so as is consistent with their nature, the intellectual operations can by no means be viewed as an ordinary occasion of disease, or as tending directly to abbreviate the term of human existence. On the contrary, ordinary experience

warrants us in believing that a judicious exercise of the intellectual faculties is conducive both to health and happiness. We know there have not been wanting persons, ay, and those persons eminent for learning too, who maintain that the savage is our only natural and happy condition. Thus, we read of man in the golden age of his early creation, dwelling in a mild and balmy climate abounding in vegetable productions suitable to his wants, living solitary, naked, savage; roaming without care or thought the vast forests which he held in common with the brute—we read of him as being then pure, gentle, and innocent, exempt from all those multiform and painful maladies which now afflict and shorten his career. In this state, free from all those lights and shadows of the soul which spring from cultivated intellect, like the brutes, he was happy in the bare consciousness of existence; in exercising his limbs; in basking in the sunshine, or cooling himself in the shade; and in the gratification of his mere animal propensities. But that such a primeval state of blissful ignorance, health and purity, ever existed, we have no other evidence than what rests on the fancies of poetry, or the dreams of poetic philosophy. The savages of the present day, who, one would think, ought to come most nearly to this blessed state of nature, present a picture the very opposite to that described. The tendency of man is obviously to civilization and mental progress; whence the highest moral and intellectual advancement of which he is susceptible, is the only natural state that can be predicated of him. The mind, like the body, demands exercise. That the proudest faculties of our nature were intended for slothful inaction—that talents were given us to remain torpid and unproductive—is alike repugnant to reason and analogy. There is, in fact, no power of the living economy, however humble, but needs action, both on its own account, and on that of the general constitution. So closely united by sympathies are all our functions, that the judicious exercise of each one, beside conducing to its individual welfare, must contribute, in a greater or less degree, a healthful influence to every other.

It is, however, an opinion not uncommonly entertained, that studious habits, or intellectual pursuits, tend necessarily to injure the health, and abbreviate the term of life—that mental labours are ever prosecuted at the expense of the body, and must consequently hasten its decay. Such a result, however, is by no means essential, unless the labours be urged to an injudicious excess, when of course, as in all overstrained exertions, whether of body or mind, various prejudicial effects may be naturally anticipated. In support of this opinion abundant instances may be cited, both from ancient and modern times, of men eminently distinguished for the amount and profundity of their mental labours, who, being temperate and regular in their habits, have continued to enjoy firm health, and have attained a protracted existence.

The author, in the next place, considers the evil consequences that may be apprehended from overtasking the intellectual powers. He shows that the powers of the brain may be impaired by extravagant mental, in like manner as those of the muscles by severe corporeal, exertions. Hence, if the intellectual faculties are overstrained habitually, a train of moral and physical infirmities may be induced, which shall embitter existence, and abridge its duration. He then adduces reasons why intellectual operations should prove prejudicial more or less to health, viz. because such operations are necessarily more or less associated with passion—hence it is a matter of daily observation that those mental operations which elicit the strongest moral feelings are most prejudicial to the health.

We shall close our notice of this excellent and truly intellectual performance, not without urgently recommending its attentive and careful perusal to all who desire the *mens sana in corpore sano*.

ON CERTAIN MORBID STATES OF THE LIVER. By Professor *C. H. Schultz.* Berlin.

*THE various states of the liver are intimately connected with the changes which may occur in its function. It is accordingly of great importance, to consider the hepatic function from an organico-natural point of view, so much the more, as this organ performs so important a part in the animal economy, both in the healthy and also in the morbid state. The function of the liver is closely connected with the portal system and the blood-*moulting*, nay, the liver is to be regarded as the vertex or apex (die spitze) of the portal function itself. The liver has been frequently considered as a depuratory organ of the body, and the bile as an excrementitious substance; but this view is an uncertain and undefined one, because through it neither the direct relation of this depuration to the vitality of the blood, nor the organic end of the bile during digestion, have been correctly ascertained. The knowledge of the hepatic function is inseparable from the knowledge of the blood-renewal and its moulting; this function is related on the one hand only to the vitality of the blood, and acts on other organs merely indirectly through the blood; on the other hand, it acts through the secretion of bile forwards on chylification in the intestinal canal, and hence the liver possesses not only the importance of an excreting organ, but necessarily serves also as a key-stone for the periodicity of the blood's vitality between the commencement and termination of the same. The blood-moulting necessarily propels the biliary secretion; and the formation of new blood necessarily requires the bile in chylification. Thus the liver holds a middle place between the commencement and termination of blood-formation, and it may be acted on forwards and backwards in such a manner that certain morbid states may be occasioned thereby.

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* As some of the terms and several of the principles which present themselves in this article, may be difficult to be understood by those not acquainted with the author's peculiar views in Physiology and Pathology, and as his character is very high in both these departments of science, we shall take this opportunity of giving a summary here, so far as may be necessary, to render this article easily understood. In the year 1842, Professor Schultz published a work entitled *Ueber die Verjüngung des menschlichen Lebens und die Mittel und Wege zu ihrer Kultur* —that is, in plain English, *On the Youthification of Human Life, and the Ways and Means for its Culture.*

We are taught by physiology that the materials of which the body is composed are constantly undergoing changes, new matter being deposited and the old removed, or, as the author calls these two processes, the process of renewal and the process of separation, the effete or worn out particles; to the latter process he gives the name of *moulting*. The substances which are moulted are but the *debris* left by the process of renewal. In another work of his, entitled *Systema der Circulation*, &c. the author has shown—that the blood-vesicles, called by others blood-corpuscles, are constantly undergoing renewal and disorganization—that the only organized constituents of the blood are the plasma or liquor sanguinis, and these vesicles—that the proper function of these vesicles is to absorb oxygen in the lungs—that their capacity to perform this function depends on their contractility—that the first origin of these vesicles is in the lymphatic system—that when this blood-vesicle is no longer capable of being acted on by oxygen from a loss of its contractility, it becomes effete, its colouring matter has to be removed, and itself has to be excreted—that it is in the liver all those changes are to take place—that it is in the vena portæ the old worn-out vesicles are taken out of the circulation, and the debris separated from the blood—that

1. First of all, the evacuation of the bile from the gall-bladder and the biliary ducts is affected sympathetically by the state of the intestinal motion. The intestinal motion is propagated sympathetically to the gall-ducts and gall-bladder, as may be readily seen by artificially irritating the intestine in an animal just killed, as in a duck, and on accelerating the intestinal motion the discharge of bile becomes also accelerated; and vice versâ, by retarding the intestinal motion, the motion of the gall-bladder and of the bile-ducts are retarded and interrupted; a disposition to diarrhœa or to constipation acts in this way backwards on the liver, and the former will be followed by a hepatic flux, the latter by hepatic infarction, if these states should continue for any time. We find an instance of the first case, wherever there exists a disposition to the formation of acid in the intestinal canal of scrofulous children, or in the diarrhœa of adults occasioned by the same cause, and this state weakens the liver as well as the intestinal canal, so that at length the liver does not perfectly free the blood from the moulting material, and a disposition to jaundice is the consequence. In cases of hepatic obstruction, wherein a concentrated bile is contained for a long time in the gall-bladder, there arise dispositions to the formation of gall-stones, hepatic swellings, and hypertrophy, the moulting plastic material combining in such cases with the formative material, and thus producing increase of nutrition (des Vegetirens). In the case of the liver this is so much the more possible, as the vena portæ which contains the moulting blood exercises plastic powers similarly to arteries.

Another morbid state of the liver occurs in Summer and in Tropical Climates, whereby bilious fever, bilious vomiting, and bilious diarrhœas are produced. This state is occasioned by an excessive transformation of the melanotic blood into bilious blood immediately in the vena portæ. In order to understand this rightly, it must be considered that, for the secretion of bile in general, two sorts of conditions in the blood of the porta are necessary. 1st. The presence of a great quantity of colouring matter in the effete blood-vesicles, accordingly great quantities of black cruor, no longer capable of respiration and vitality. 2d. That this colouring matter be no longer retained by the blood-vesicles, but be dissolved in the plasma whereby the plasma of the portal blood, as we have shown,* becomes redder than arterial and venous blood During its passage through the liver the portal blood in the healthy state loses the colouring matter dissolved in the plasma, which has been employed in the secretion of bile. The cause of this greater solution of colouring matter in the plasma of the portal blood lies partly in the greatly diminished contractility of the old bloodless membranes (of the blood-

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these blood-vesicles are the true respiratory organs of the blood and subservient to the completion of the process of assimilation—that by absorption of oxygen the granular substance which constitutes the origin of the vesicle in the lymphatics is transformed into plasma, whilst the colouring matter is the residue of the transforming processes—that the plasma is the colourless organized plastic fluid in which the vesicles float—that this plasma is the true formative and nutritive material in the blood, and consequently that it exists in less quantity in venous than in arterial blood—that if the old vesicles are not excreted from the blood, as new ones form, the portal system becomes congested—that the last change the blood-vesicles undergo is *moulting*—that the blood purifies itself from these, and that the liver is the organ in which this exit from the circulation is made—that as the vascular system has no direct emunctory through which the moulted debris may be thrown off, the circulation through the liver pours them out into the intestines as bile—that the blood in the vena portæ differs from common venous blood in its colouring matter being darker, and containing less plasma, and in its plasma containing colouring matter, and in being more aqueous.—*Reviewer.*

* See the author's work entitled System der Circulation. S. 322.—*Rev.*

vesicles) which no longer retain the colouring matter, and partly in the greater proportion of water contained in the portal blood, whereby the colouring matter is more easily dissolved in the plasma.

We have now to consider, how far these circumstances are concerned in producing a disposition to bilious diseases in Summer, and in Tropical Regions. There is formed a great mass of bilious blood, the melanotic being changed into the bilious by solution of the colouring matter in the plasma. We have now to investigate the conditions under which the change takes place. They are chiefly two: 1. A greater debility and relaxation of the blood-vesicles, and a more watery state of the blood. These conditions are occasioned by the mode of life which men follow in Summer and in Tropical Regions: first, by the greater quantity of vegetable diet; and, secondly, by the greater quantity of watery drinks used

1. Vegetable food forms in general only small blood-vesicles, and such as are provided with only very delicate membranes. This is seen in all graminivorous animals, which are found to have much smaller and more delicate blood-vesicles than carnivorous animals. Accordingly, a much greater quantity of water is required to dissolve the colouring matter from the blood of dogs and cats, than from the blood of rabbits and sheep. One may, with three or four parts of water, wash away all the colouring matter from the blood-vesicles of sheep and rabbits, whilst five or six parts, and even more, are necessary to wash it away from the blood of dogs and cats. Similar conditions are produced in the case of man by a preponderance of flesh or vegetable diet. To this it may be added, that the carnivorous blood-vesicles become much older, because they are more robust than the herbivorous. The herbivorous vesicles are, accordingly, much earlier in becoming effete, and in having this colouring matter dissolved, and hence it is evident how a mass of blood-vesicles which has been formed in man whilst feeding on a preponderating quantity of vegetable diet, especially raw fruits, which are eaten in such quantities in Summer, and in Tropical Regions, will evince such little resistance to the solution of its vesicles, so that there is already present a strong disposition to the formation of a red plasma, especially in the vena portæ. Hence it is, that vegetable blood, if I may so call it, disposes so much to liver and bilious affections. This is strikingly exemplified in the case of sheep, an extraordinary number of which die of liver diseases, so that scarcely an old sheep is to be found with a healthy liver. This is to be referred solely to the peculiar nature of the blood-renewal in these animals.

2. The attenuation of the blood by the excessive use of watery drinks, occasioned by the heat of Summer, and in Tropical Regions, forms the second cause of a disposition to hepatic disease. We have shown elsewhere how by water-drinking from five to six per cent. of water, on an average, is introduced into the blood, and that this quantity more than suffices to dissolve so much colouring matter, that the entire plasma becomes reddened thereby. This effect is seen first in the portal blood, because the water drunk is absorbed from the stomach and intestinal canal by the roots of the vena portæ, (and but very little by the lymphatics,) so that the portal blood first comes into contact with the great quantity of water consumed, even though this same is subsequently diffused throughout the entire mass of blood. Now the more relaxed the state of the blood is, the less power is there to eliminate the water again through the skin or kidneys, and the longer will the water tarry in the blood, and exert its cruor-dissolving power in the entire mass of blood. Both these states now occur: the feeble relaxed state of the herbivorous vesicles, after the use of large quantities of vegetable food, and the excessive use of watery drinks: these are the necessary conditions for producing a disposition to bilious and hepatic diseases in Summer, and in Tropical Regions. In the next place, the liver becomes overloaded with bilious blood, the secretion of bile is exalted. Should this state continue, the

bile secreted becomes abnormal in quality, and this circumstance produces disturbances of digestion. Again, this bilious state being transferred to the entire mass of blood, general febrile irritation arises, a disposition to jaundice, intermittent fevers, bilious fevers, which at length pass into nervous fever; whilst the arterial character of the blood is diminished in this state, the absorption of oxygen in the lungs is impaired, and accordingly the natural excitement of the nervous system is interrupted, its own healthy self-excitement being also destroyed.

That the liver itself should suffer most in consequence of these abnormal states of the blood-moulting, depends on this circumstance, that it is itself the normal blood-moulting organ, and that the morbid directions of this function press most upon it. The human liver is in Summer, and in Tropical Climates, reduced to the state of the sheep's liver, and, in fact, the study of liver disease in the sheep is well adapted to throw light on the diseases of the human liver. All these states are perfectly inexplicable, according to dynamical and chemical Physiology.—[*Beiträge zur Physiologischen und Pathologischen Chemie und Mikroscopie.* Berlin, 1844.]

MORBID FORMATION OF SUGAR AS A RESIDUUM OF ABNORMAL CHYLIFICATION, (NOT ABNORMAL CHYMIFICATION.) By Professor *Schultz*, of Berlin.

(Beiträge zur Physiologischen und Patholigischen Chemie und Mikroscopie, &c. Berlin, 1844.)

THE morbid formation of Sugar is most striking in diabetes; but sweet pus is often secreted in consumption also; and it is worthy of remark, that most diabetic patients die of consumption. No calculations have been hitherto made with respect to the quantity of Sugar voided in diabetes; but the quantity of sugar is of importance in reference to the qualities of the food, which become changed thereto. In diabetes, so much sugar forms in the urine, that of 62.03 solid parts in the same, 58.15 are sugar, and often still larger proportions. The fluid urine contains often from five to eight per cent. of sugar; so that in a discharge of five quarts of urine from eight to twelve ounces of sugar are voided. The sugar is grape-sugar, not always sweet, but still it has the property of fermenting. The blood of diabetic patients contains sugar only in small quantity, no doubt, as it is voided again. Rollo proved this to be the case: afterwards it was not believed; but Gregor, Bouchardat, and Simon have confirmed the matter. Gregor showed that the sugar arises in the stomach, as it has been found in the vomitings of a diabetic patient, and even in the excrements. The latter is striking and interesting, as the formation of sugar in the stomach, especially from vegetable diet, is a general physiological phenomenon, which hitherto has been too much overlooked.

We have shown elsewhere, that all mealy aliments, and therefore bread, become changed into sugar by saliva. It may be an error, then, when Gregor states that he found no sugar in the gastric contents of a healthy man, premising that he had eaten bread or pulse with meat. But, according to Rollo, and according to our own observation also, diabetic patients form no sugar from meat, no more than the healthy stomach does. It has been shown that animal food is changed in the stomach only into lactic acid, not into sugar. The difference in diabetic and healthy cases consists only in this, that, in the healthy state, the sugar of the chyme formed from vegetable diet, becomes deoxidized again after the admixture of the bile in the duodenum, and, at the same time, is changed into an albumen-like substance; but this does not occur in diabetic states, so

that here the sugar proceeds unchanged from the stomach into the intestine. *The cause of the morbid Saccharification in diabetes lies, accordingly, not in the Chymification-process of the Stomach, but in the Chylification-process of the duodenum*, and accordingly much more in the liver, which does not pour good bile into the duodenum for the purpose of a healthy chylification. Defective secretion of bile contains the grand cause of diabetes; hence, when there is a deficiency of bile, or when the bile is bad in quality, the intestinal contents contain sugar until its evacuation through the rectum. Besides all this, the chyme in the duodenum continues sweet and acid; during chylification it does not pass into the normal formation of albumen and fat, and in this lies the cause of diabetes.

We have made the observation, in the case of a diabetic female, that the medicinal use of fresh bile, from four to six ounces daily, perceptibly checks the formation of sugar in the urine. We have subsequently made several similar observations, more particularly in the case of a woman who was suffering under confirmed diabetes, and where, after the use of a sufficient quantity of fresh bile two hours after meals, the sugar entirely disappeared in the urine. The doses of bile hitherto given in diabetes have been too small; and hence, doubts have been entertained respecting its action.

The origin of the sugar accordingly proceeds from the intestinal canal, but not from the stomach, as M. Gregor maintains. We have twice found sugar in the lymph and portal blood of scrofulous children. But, true diabetes seems to occur only, when through the deficient formation of blood in general, a morbid process of waste has set in. For the sugar absorbed in the healthy state by the vena portæ is never eliminated through the urine, but, like all the nutritive parts of drinks, is deposited in the spleen and in the glands of the mesentery, and there subjected to a new elaboration and sanguification. Accordingly, the sugar introduced into the blood by nutrition, in the case of healthy dogs and horses, is not again found in the urine. The cause, why the sugar is eliminated through the kidneys in diabetes, a thing which does not occur in the healthy state, still requires investigation.

ON THE ORIGIN OF MELANOSIS. By *Professor Schultz*, of the University of Berlin. (Beiträge zur Physiologischen und Pathologischen Chemie und Mikroscopie, &c.)

IT has been the custom hitherto to represent melanotic masses as products of diseases of the liver and spleen: nor could it be otherwise, taking into consideration the hitherto state of our knowledge regarding the blood, and the share it takes in abdominal diseases. Heusinger has treated the subject at full length in his work on the spleen. But the truth is, both the liver and the spleen are wholly unconcerned in the formation of melanosis. According to what we have stated elsewhere, regarding the formation and development of the blood, and its two renewal-acts of formation and moulting,* melanosis arises solely from a morbid moulting of the blood. As the vena portæ is the natural rendezvous for the blood-moulting-material, the bile, disturbances of the blood-moulting will be usually connected with affections of the liver and spleen: but the spleen is just as much concerned in this as the glands of the mesentery, from which also the roots of the vena portæ take their rise; and the spleen is just as little primarily diseased as the liver, but merely in consequence of the moulting-ob-

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* See the author's work, entitled *System der Circulation*, and *Verjüngung des Menschlichen Lebens*.—*Rev.*

structions of the blood. This is a point of high practical importance, as we thence see that melanosis is more an abnormal blood-moulting, thrown upon another organ, and depends on an overfilling of the vena portæ, and ultimately of the entire mass of blood with melanotic blood-vesicles, which may occur without any affection whatever of the liver and spleen. We have shown, on another occasion, that the cruor of the portal blood is quite distinguished from the cruor of the arterial and venous blood, and that, by its very dark colour, it closely resembles melanotic materials. That the separation of the melanotic masses is so frequently thrown on the lungs, was once considered as a proof that the lungs may take on the function of the liver, whilst the sole and only true cause is, that, amid the general melanotic state of the blood, this fluid becomes obstructed in the peripheric system of the lungs, and accumulates here, because it lacks the moving force, so that in the disposition to passive congestions of the lung, occasioned thereby, a tendency arises to throw off the melanotic materials directly in this organ.

With respect to the influence of the lung and liver in the so-called decarbonization of the blood, an entirely incorrect view has been taken hitherto. It has been believed (and Tiedemann has taken great pains to prove it) that lung and liver may act vicariously in decarbonizing the blood, so that when the function of the liver is interrupted, the lung takes on it that of the liver, and *vice versa*. Tiedemann accordingly supposed, that throughout the entire animal kingdom there exists a contrast in the development of the lung and liver, that animals with large lungs have small livers, and animals with large livers have small lungs; as an instance of this. Tiedemann adduced Water-birds and Mollusca. But this is only apparent. The liver can only separate the black colouring-matter of the effete blood-vesicles, without ever having a necessity for oxygen, because the oxygen no longer acts on the defunct vesicles; its action refers only to the moulting-formation of the blood. The lung can only separate the carbonic acid from the young and still living vesicles, wherein the absorption of oxygen gas is necessary, in order to irritate the blood vesicles to contraction; lung and liver never interfere with each other's function. In Mollusca the entire blood is found in a bilious state, because all the colouring matter is deposited in the plasma. These animals have therefore a natural black jaundice, and they are almost all black, and separate so much bile merely from this cause. A similar state of things is observed in water-birds without these animals having smaller lungs than other birds. It is, therefore, incorrect to maintain that the deposition of melanotic substances in the lungs depends on the natural tendency of the lungs to separate carbon instead of the liver. For the question here, is not concerning the separation of carbon in general, but concerning the separation of the black colouring matter of the blood. If the lungs deposit black-colouring matter in them, this is to be considered rather as a morbid state of the lung itself; a state in which the lung suffers only as a consequence of the action of the melanotic and of the bilious blood formed therefrom, and is thereby obliged to separate the black-colouring matter. Accordingly, it is not the lungs alone in which such melanotic substances are deposited; these depositions may take place in all organs, in the cellular tissue, in serous membranes, glands, in the brain, where obstructions of melanotic blood form, as is proved by experience. In Tropical climates European women sometimes have black menses. Nay, it is probable that the intestinal canal is much more frequently the seat of melanotic depositions than the lungs. After dysentery and yellow fever the entire intestinal canal is found to present as black an appearance as the biliary passages. It is certainly a circumstance worth noticing, that certain external influences which act on the lung, as air impregnated with marshy vapours, may produce a bilious state of the blood, wherein the lung then re-acts on the liver. But surely we must not infer from this a vicariousness in the action of the lung and liver; the real fact being that, in consequence of the carburetted-hydrogen gas, a paralysis of the blood-vesicles is produced, whereby much more colouring matter is dissolved in

the plasma, and the bilious state is occasioned by the melanosis, which disposes to the secretion of the colouring matter abnormally, just as in the healthy state in the case of Mollusca. In all this the liver never takes on itself the function of the lung; nay, rather the liver still continues the portal of death, the lung the portal of life, with respect to the vitality of the blood. The lung must separate bile, and the liver must exhale carbonic acid, if these organs are mutually to interchange their respective functions. It is then much more to the abnormal state of the blood than to the action of the lung and liver that we must refer the formation of melanosis. The blood must throw off from itself the moulting-substance of the effete vesicles; the vascular intestine by which this is accomplished is the vena portæ. The melanotic blood is not attracted by the lungs; it is rather repelled by them; and it is attracted by the liver only in the healthy state, in order to eliminate the moulting-material as bile. If any obstruction occur here, the morbid deposition may be directed to various organs. If the liver become affected under these circumstances, it becomes so only in consequence of the abnormal blood-moulting, and not primarily; hence the liver is never to be blamed for the formation of melanosis, it is itself affected only when Melanosis has been formed.

THE TRANSACTIONS OF THE PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION. Volume XII. 1844.

THE present volume consists of TWO PARTS; the first part contains two retrospective addresses, one by Dr. T. Shapter, of Exeter, in which the improvements made in the various branches of medicine within the last year are presented to the notice of the Association; the other, by William Hey, Jun. Esq, Surgeon to the Leeds Infirmary, on the recent Improvements in Surgery. The Second Part consists of Essays and Cases. The first Essay is on *the Actual Process of Nutrition in the Living Structure, demonstrated by the Microscope; and the Renewal of the Tissues and the Secretions from the Blood thereby illustrated.* This is from the pen of William Addison, Esq., F.L.S., &c. already favourably known to the profession for his microscopical researches in Minute Anatomy. This Essay is accompanied with plates. We shall present to our readers a succinct analysis of the more important parts of this Essay. The author of the Essay first remarks that microscopical observers are not yet agreed with respect to the place of origin and the structure of the red corpuscles, together with the relation existing between them and the colourless ones. Both the red and the colourless corpuscles or cells circulate in all the capillary blood-channels of the human body. The object of the Essay is to trace the several stages through which *the latter* pass in their progress through the tissues, to describe the visible or physical characteristics of their contents, and to investigate the probable result of their final dissolution.

"The coagulation of the buffy coat of the blood," says the author, "is a *glaring instance* of an elastic, compact, fibrous, and colourless tissue, resulting from the fibrillation and incorporation of the colourless elements of the blood: the experiment related in the following paper is *a glaring instance* of the actual formation of this tissue, in which we see how the colourless blood-corpuscles and the molecules are included in, and incorporated with, the fibres; and, lastly, the accumulation of the colourless blood-corpuscles in the capillary vessels in the web of the frog's foot after immersion in warm water, their adhesion to the walls of the vessels, and their situation, first between the red current and the tissue, and then among the fibres of the latter, is *a glaring instance* of the process of nutrition."

SECT. 1.—Some years back the author published several cases demonstrating the existence of great numbers of colourless corpuscles in the buffy coat of the blood—he subsequently published the fact of the lymph globules being seen accumulating in the irritated vessels of the frog's foot; he then stated that a thin film of the coagulated fibrin from the surface of inflammatory blood had all the structural characteristics and physical properties of fibrous or membranous tissue. The process by which this tissue is formed he has called *fibrillation*; it takes place in the liquor sanguinis. These colourless corpuscles were found to exist in the blood at all times; and were more abundant in blood drawn from vessels whose calibre was increased by inflammation, or which were administered to an accelerated process of nutrition. The author, by following up his experiments, came to the conclusion that lymph and pus-globules, exudation-cells, and epithelium, originate from the colourless corpuscles. This conclusion was strengthened by the fact, that the fibrin of the liquor sanguinis was never seen during the progress of fibrillation to give origin to a corpuscle or globular particle of any kind. The author here details some experiments, proving that the buffy coat of the blood is neither more nor less than elastic fibrous tissue. By means of them he also endeavours to account for the formation of the buffy coat of the blood in all those cases in which its presence is connected with disordered function or disease. From sundry causes, the process of nutrition, or what amounts to the same thing, the function of secretion, is disturbed or diminished, and the colourless corpuscles, therefore, accumulate in the blood. When a vein is opened, a greater number than usual flow out; from the sudden change of temperature to which they are exposed, or from other causes, many of them burst or become ruptured, and discharge their contents, consisting of a liquor sanguinis and molecules. After standing a short time, the liquor sanguinis rises to the surface, drawing up not only the molecules which were associated with it in the interior of the corpuscles, but also all those colourless corpuscles which have preserved their integrity amid the changes to which they have been exposed; here it very shortly fibrillates and forms tissue, as it would have done in the living vessels, had the contents of the corpuscles been appropriated to the purposes of nutrition. Hence, neither the fibrinous element nor the serum circulate in the blood as part of the fluid in which the red corpuscles are suspended in the living vessels; they are both enclosed within, and form, incorporated together, an essential ingredient of the interior contents of the colourless corpuscle. He ascertained by experiment, that on placing a drop of white and opaque healthy pus on a slip of glass, and well mingling it with a drop of liquor potassæ, it entirely lost its opaque character, and became clear and transparent, resembling mucus—the effect of the alkali is to destroy the pus-globules. This experiment sets at rest the difference between pus and mucus, and confirms the identity of mucus and pus-globules. From a number of experiments here detailed the author draws the following conclusions:—

1st. That the plastic fibrillating liquid, denominated liquor sanguinis, exists as a fluid within the colourless blood-corpuscles, and that, when it escapes from them, it forms an elastic fibrous tissue, the serum being the residual liquid.

2d. That mucous and pus globules are altered colourless blood-corpuscles, and that the glairy fluid termed mucus is nothing more than an altered state of the fibrillating liquor sanguinis, the change from the one to the other being coeval with the changes which characterize the microscopical aspect of the corpuscles. Hence, if we take the red portion of the buffy clot, and the red blood-corpuscle, to represent blood, then the colourless layer of liquor sanguinis with the colourless blood-corpuscle will represent the first remove from blood, and mucus or pus, with the mucous or pus globule, will be the next. And it would appear, generally, that the nearer the corpuscle is to, or the fewer the stages of its removal from, the circulating fluid, the more nearly it resembles the colourless blood-corpuscle, and the more decidedly and visibly its fluid contents, when

they escape, fibrillate; whereas, the further the corpuscle is, or the greater the number of stages of its removal from the circulation, the larger it is, the more it is filled with molecules, and the less perfectly do the fluid contents fibrillate. Now, if it be admitted, that the fibrillating liquor sanguinis is changed into mucus in the interior of living cells, then there can be no difficulty in admitting that similar living cells, by a different mode of elaboration, may form not only sundry kinds of fibrous or mucous tissue, but the tears, saliva, milk, or bile.

His subsequent investigations have only tended to confirm the conclusions drawn by the author from his previous "Researches," viz. that the colourless corpuscles are very highly organized cells, within which the special tissues and the secretions are elaborated; and it appears that the renovation of these tissues and secretions from the blood does not take place by the cells discharging their contents into the general mass of the circulating current, to be separated therefrom by some peculiar transcendental, and purely hypothetical selective process of exudation, through a structureless and transparent tissue, but, by being themselves attached to, incorporated with, and performing their special function in the structure.

The author is satisfied, from the facts upon which the above conclusions are founded, that the progress of the colourless blood-cells in administering to the maintenance of the living body is not *back again* into red corpuscles, but *onward* into the higher forms of organized fibrous tissue and epithelium. He conceives also that the blood-cells have their origin in the chyle, and that every step, by which they multiply or increase in numbers, is progressive, carrying them higher in the scale of organization, until, at length, they acquire colour by passing through the capillaries of the lungs: they then again become colourless by further elaboration or nutritive changes, and in this condition are prepared to enter upon what may appropriately be termed a higher and more special state of existence, *i. e.* into the composition of the tissue. If, then, the colourless blood-corpuscles be termed "parent cells," they must be considered as pregnant with the embryo materials of the tissues and secretions, and not with "young blood-cells." According to this view of the entire dependence of secretion upon the nutritive process, neither milk, mucus, nor the bile, are derived from the blood as such; on the contrary, they are each elaborated in the interior of cells which were previously colourless blood-cells, the change from a blood to an epithelial cell being the sum of the process of secretion; and milk, mucus, and bile, are the visible fluid results of the final dissolution of the cells. Hence, then, a secretion is the result of the last stage of the process of nutrition, and hence, also, it is by the special vital activity of individual cells, and of all the visible particles composing their structure, that the secretions are produced.

SECT. 2.—The author considers that the hitherto-received doctrine, viz. that the capillary blood-vessels have permanent tubular coats, is totally irreconcilable with the results of recent observations regarding the function and process of nutrition. He gives the following explanation and *theory of the process of nutrition:*

Nutrition may be normal or abnormal. In normal nutrition the colourless blood-corpuscles adhere to the tissue forming the boundary of the blood-channels; they contribute to form this tissue, *i. e.* the parietes of the capillaries, and are afterwards evolved or thrown off from the nearest free surface—a follicle, crypt, or duct, constituting epithelial cells; the mucus, or the secretion given out by the follicles or flowing through the ducts, being the result of the final dissolution of the cells and tissues. In abnormal nutrition the colourless blood-corpuscles adhere to the parietes of the capillaries in much greater abundance; they pass out among the fibres of the tissue, which is now much less fibrous and

coherent, and are subsequently thrown off from the nearest free surface—a pyogenic surface, as lymph, pus, exudation, or imperfect epithelial cells.

According to this account, the fibrous walls of the capillary vessels are formed by the fibrillation of the liquor sanguinis contained in the interior of the colourless blood-corpuscles, some of the corpuscles being employed or expended in forming the fibrous tissue, others passing through it in the interstices of the fibres for further elaboration into epithelium. If the corpuscles congregate in unusual numbers, and be hurried through the stages of their growth by an abnormal nutrition, they come under observation as lymph, pus, or exudation cells: the various appearances presented by these objects, and the quality of their contents, being referrible to the period of their growth, to the special function of the tissue, and to the chemical action of the fluids with which they are associated.

The author sets about testing the truth of this, his theory of nutrition, by referring to the phenomena of some well-marked disease. He takes for example scarlet fever: this disease has a specific character arising from a peculiar poison affecting the blood-corpuscles; the function of nutrition becomes more or less disturbed, the secretions are diminished or disordered, and the colourless blood-cells consequently accumulated in the circulating fluid. When the disease is mild, these cells are determined to the epithelial surfaces of the skin, in order to be eliminated from the body. In the severer cases they accumulate in the vessels of some of the internal epithelial surfaces, causing muco-purulent discharges, or the formation of abscess, so that there may be scarlet fever without cutaneous redness. If there has been no exfoliation of the skin, nor critical discharge, the abnormal corpuscles either have not been at all, or only imperfectly eliminated. Under such circumstances, the patient may appear for a little time to be getting well; this is deceptive, as the diseased corpuscles are still in the circulation, insidiously perhaps, by an abnormal nutrition, locating themselves in some glandular structure, or forming tubercles on the lungs—if not so, their presence will be speedily proclaimed by symptoms of dropsy, or some acute inflammatory or abnormal nutrition in the kidneys, the phenomena of which attest the truth of the theory; for the disintegrated tissues and the red corpuscles of the blood are voided in the urine.

These views explain why it so often happens that the mildest cases are so frequently followed with graver lesions after—it also points out the necessity of attending to the exfoliation of the cuticle or of watching some other critical discharge before dismissing the case as one which has terminated satisfactorily. To test the theory still further: the author asks, what are the remedial measures it suggests, where the natural cure—the elimination of the abnormal corpuscles—has been interrupted or impeded?

1st. Bleeding, in order to diminish the total amount of the colourless blood-corpuscles; and by so doing, to recall into the current of the circulation, some of those which have become stationary, oppressing and loading the tissues.

2. A more or less active purgation or accelerated nutrition upon all the available epithelial surfaces, so that by removing the effete epithelium, a stimulus may be given for the more rapid growth of the new. Thus then the theory of nutrition advanced by Mr. Addison suggests the employment of those remedial measures which enlightened medical experience has sanctioned as frequently essential to the cure of the disease. Nay, it even does more; it indicates two very different modes of withdrawing blood—one by lancet, leeches, &c. where both the red and colourless corpuscles are discharged; the other, by establishing an accelerated nutrition—an eruption on the skin, a blister, an issue, or seton, where the colourless corpuscles only are selected and thrown off.

The 3d Section of this essay treats of the *Function of Structure*; the author's object in it is, to point out those analogies and facts most calculated to give an insight into the means whereby the qualities or properties of the living structure

are sustained by a succession of altering cells. The general tenour of the argument, several of the illustrations, and some of the conclusions arrived at, are identical with those employed by Liebig in his Organic Chemistry. There is, however, this difference. Liebig proceeds on the supposition that the globules of the blood take no share in the process of nutrition, whilst our author assumes that the globules of the blood are the sole agents of nutrition. In this section the author assumes, as a leading and essential principle, "the inherent activity of matter"—this he proves from authority; first referring to Sir J. Herschel, who says that the inherent activity of matter is proved not only by the production of motion, by mutual attractions and repulsions of distant or contiguous masses, but by the changes and apparent transformations, which different substances undergo in their sensible qualities.*

Bacon says, that "all bodies whatsoever, though they have no sense, yet they have *perception*." As the ultimate elements of all living bodies are of the same kind as those most energetic in inanimate and inorganic bodies, so they have the same "inherent activity;" and, being in a constant and ceaseless state of change, it follows (unless the contrary be proved) that a certain amount of power or force must be the result. Also, as the secreting and all the nutritive organs of the body are structural arrangements, in which changes are going on, they can scarcely be supposed limited in their office merely to the production of what is termed a secretion: on the contrary, there being a large amount of "perception," or "susceptibility" and power, quite distinct from consciousness and volition, to account for, it is much more probable that their function is a *dynamic function*, and that the secretions flowing from them are the visible remains of the materials which have ministered to the function. After considering the will as another of the sources of motions in living bodies, of those motions which are called voluntary, he lays down this rule: that all the visible motions and affections of the body distinct from the *will*, may generally be modified or removed by altering, increasing, or diminishing the nutritive changes of the structure: and it may be affirmed generally that the will, having a large control over the materials received within the body, and therefore over the nutritive changes, is responsible for the origin of many bodily diseases. The metaphysical nature of the disquisitions constituting this section obliges us to discontinue further notice of it.

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* Preliminary Discourse, p. 297; also p. 59.

Spirit of the Foreign Periodicals.

MISCELLANEOUS REMARKS ON HEMATOLOGY.

So much attention is paid in the present day to the study of the Changes of the Blood in different diseases, and so intimately acquainted is this study with some of the most important topics of Therapeutic Medicine, that we offer no apology for again inviting the attention of our readers to a subject that has been pretty amply discussed in the last, and one or two of the preceding numbers of this Journal. There is at present going on, within the economy of the body medical, so curious a process of change, and work of transition from the doctrines of an exclusive Solidism to those of a mixed and modified Humorism, that it becomes most necessary to watch every step in its development and progress, ready to avail ourselves of every well-established discovery, yet guarding our minds against an indiscriminate adoption of every new announcement. In this point of view, the following observations may be read with some profit as well as interest.

The analysis of the Blood of various animals, affected with different forms of inflammatory disease, has invariably exhibited an increase in the normal proportion of its Fibrin. In the *Cachexia aquosa*—known usually by the name of the *rot*—in sheep, the blood is found to be very seriously altered. The proportion of the Fibrin is increased, while that of the Globules, and also of the Albumen in the serum, is very notably diminished below the standard of health. The watery portion or serosity of the latter constituent is much greater than in health; in some cases it amounts to as much as 930 parts in 1000 of the blood. The *Cachexia aquosa* in sheep and the disease of *Albuminuria* in the human subject are the two pathological conditions, in which the proportion of the Albumen in the serum is found to be most remarkably diminished. It is curious however that there is none of this element discoverable in the urine of the animal, when affected with the former malady. But thousands of parasitic Entozoa are usually found dispersed through the substance of the liver and lungs. Moreover, the existence of this malady, even in a high degree, does not exclude the occasional development of well-marked inflammatory action. Under such circumstances, the proportion of the red Globules in the blood continues to be very low; but that of the Fibrin becomes very sensibly augmented, in spite of the general feebleness of the system, and the extreme impoverishment of the blood. It would seem therefore that the increase in the proportion of the Fibrin is always associated with the development of acute diseases in constitutions that are much enfeebled, although the proportion of the red Globules is much lowered beyond the normal standard at the time. It is important to attend to these circumstances, as they serve to point out the general character and tendencies of the Humoral Doctrine of the present day. It is scarcely necessary to say here, that we are indebted for much of our recently-acquired knowledge to the admirable researches of MM. *Andral*, *Gavarret* and *Delafond*. To M. *Magendie* also we owe not a little. His experiments—which he still pursues with most praiseworthy zeal—have led him to conclusions, that forcibly remind us, in many respects, of the doctrines of the mechanical physicians of the 17th century. Their principles in reference to the mechanism of the Phlegmasiæ are nearly or exactly the same; for, in truth, the theories of the modern pathologist and of his ancient predecessors alike maintain that the process of Inflammation is induced by the red globules becoming unable to traverse the capillary vessels, and by an arrest of the capillary circulation in the parts affected.

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The characteristic feature of the old Humoral Doctrine is the unqualified assertion, as the basis of all pathological reasoning, of the vitality not of the blood only, but of all the other fluids of the body. It assumed, as a principle not to be controverted, that they (the fluids) were animated with the same sort of living activity as the solids, and therefore that they, like them, were impressionable from a variety of agencies, both in health and in disease. According to this view of the subject, the Fluids, in virtue of this vital activity, participated in the regular movements of the functions, and might become primarily the subject of their perturbations, as well as the direct agent of the sanative efforts of the system to restore the equilibrium of health. Little engaged with the physical properties of the animal fluids, the physicians of those days paid not much attention to any thing but to their general and external aspect, and almost quite neglected to examine their intimate or elemental composition. Now modern Humorism entirely reverses this mode of procedure. It does not profess to notice or take any account of the inherent activity of the animal fluids; but it confines itself to the task of examining with the most scrupulous minuteness all their physical and chemical properties. We observe the same sort of difference in point of doctrine between the old and modern schools, that has often been remarked in reference to the medical tendencies of the two epochs in question. In the former, the great aim of the physician was to watch the general phenomena of the system, and the more conspicuous manifestations of diffused vitality; while, in the latter, he directs his attention almost exclusively to the profound study of individual facts and special phenomena, and scarcely notices the more general characters of disease. The ancient doctrine was based, as we have already said, exclusively on considerations of the vital activity of the fluids; whereas, the modern one is entirely occupied with studying the material structure of the humours, their forms, and their organic constitution. Without distinctly recognising the independent and proper vitality of the fluids, it is however always to be borne in mind that, as long as they remain within the living body, they possess specific properties or qualities, which cease to exist almost immediately when withdrawn from the agency of the solids, with which they are normally in contact.

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If the fluids of the body possess functions distinct from their physical and chemical properties, we are nevertheless not to deny that there is a bond of union between the functions in question and these properties. Every one knows that the latter are continually undergoing, from a variety of circumstances, numerous modifications which have almost invariably a more or less distinct relation with the conditions of heath and disease. For example, the fluids do not exhibit the same characters in respect either of colour, or of density, or of the proportion of their constituent parts, in individuals of different ages, temperaments, sex and so forth; and even the same individual, without becoming positively out of health, is liable to experience vicissitudes of this nature, corresponding with the incessant fluctuations of regimen and the general mode of life. The state of disease very prominently displays the intimate relations that exist between the general characters of the fluids and their peculiar characters as living matter. Who does not well know the density and deep colour of the blood in inflammatory diseases, so very different from what is observed in cachectic and dropsical maladies?—who has not seen its general melting down, so to speak, or sort of aqueous solution, which frequently accompanies the presence of organic lesions, like Cancer, Scrofula, &c.? and surely no one can require to be reminded of the humoral changes that occur in Scurvy, mercurial intoxication, or purulent infection. It cannot therefore be reasonably denied that there is a most close and necessary correspondence between the normal or pathological impressions of the fluids, and the modification of their composition, or their physical changes.

Now it is precisely in this point of view that the Humoral Doctrine of the ancients was most difficult and at fault; it had unravelled with surprising sagacity the physiological and pathological conditions of the fluids, in relation with their impressions and affections; but it failed to detect the circumstances of those impressions or affections which may be reflected in the aspect and structure of the humoral matter. The deficiency in this respect was doubtless owing to the imperfect state of the accessory branches of medical investigation, more especially in the departments of physical and chemical science.—*Gazette Medicale.*

Remarks.—We may here very appropriately introduce one or two remarks on the state of the blood in Puerperal Fever, extracted from a recent article on this disease by Dr. *Bouchut.* "One of the most remarkable necroscopic characters," says he, "is the decoloration and liquefaction of the blood, and the small number of the coagula found in the vascular cavities. But, besides these changes, I have observed another alteration, which deserves the especial notice of pathologists, as it affords a strong argument in favour of the *pyogenic* etiology of the disease. On microscopic examination of the blood of a woman, who died from puerperal fever within 43 hours of seizure, I found, amidst the usual red globules, (which did not seem to be at all altered,) a considerable number of larger globules, which appeared to be colourless and to be fringed at their edges: they were either grouped together in clusters of 4 or 10, or they were isolated and detached. The great number of these abnormal globules is opposed to the idea that they were the *white globules* which always exist in healthy blood. Are we to suppose that pus-globules may become developed within the mass of the blood, without any previous inflammatory action? This opinion was ably supported by *De Haen* and *Home;* and M. *Gendrin* and other pathologists of the present day have endeavoured to prove that the pus-globule is nothing but the ordinary blood-globule somewhat changed.

In his recently published work on Pathological Chemistry, (Paris, 1843,) M. *Lheritier*, the causes of the alterations of the Blood are arranged and described under the following five heads:—

1. Those which vitiate the fluids that serve for the formation of the blood itself. The chief source of these vitiations is unquestionably the unwholesome nature of the food on which the being lives.

2. Those which in any way disturb the normal operation of the functions of Secretion and Excretion. Of this nature are the changes which are apt to take place in the constitution of the blood, during the prevalence of great heat. It has been shown by very exact observations that the increase of the atmospheric heat, more especially when the air is at the same time moist and charged with miasmatic effluvia, diminishes very considerably the action of the respiratory process on the blood, and that the Carbonic Acid and other impure elements, imperfectly eliminated in this way, are partly combined to form the Bile—then more abundant than usual, and often vitiated at the same time—and are partly excreted from the system by the surface of the skin and of the intestines. If the functions of these organs—the liver, the skin, and the bowels—which thus compensate for the diminished action of the lungs, are from any cause impeded, the matters, which should otherwise have been eliminated and discharged from the system, must remain behind and accumulate in the blood.

3. Those which contaminate the parts, with which they are brought in contact. To this class belong the cases where putrid matters are introduced into the blood, as well as most probably all contagious diseases.

4. Those which act on the vascular system directly, or indirectly through the medium of the nerves. Such are acids, alkalies, and their subcarbonates, metallic salts, various astringents, alcohol, spirit of turpentine, &c.

5. Those which are constituted by the passage of matters formed within the

body itself into the circulating fluid. These matters are either the products of secretion, such as Bile, Urine and Milk—although the existence of these substances in the blood has never been perfectly demonstrated—or they are productions which are altogether abnormal and foreign to the organism in a state of health; of this nature are pus, cancerous matter, and various inorganic substances, such as ammonia, &c.

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The following explanation of those cases of Jaundice that are apt to be induced by violent mental emotions, and which have usually been supposed to arise from a presumed Spasm of the biliary Ducts, deserves to be noticed.

"This spasm of the hepatic duct," says he, "appears to me to be, if not impossible, at least not at all intelligible: and surely it is much more reasonable to suppose that the cause of the disease under such circumstances, as well as when it has followed injuries of the head, is attributable to the depression of the nervous system—a depression which throws the liver into a state of torpor, so that this organ no longer eliminates and secretes the constituents of the bile from the mass blood. I therefore conclude that the form of Jaundice in question is owing, not to the resorption of the bile into the system, but rather to a defective or arrested secretion of it. Perhaps indeed there are certain cases of wounds of the head, where the functional condition of the liver has nothing to do with the yellow tint exhibited by the skin: the following case seems to prove this." Here the author relates a case of a man who, after having received a most severe blow on the *left* side of the head from a heavy stone falling upon him, was able to resume his work in three days, although at this time the entire upper extremity of the *right* side, from the shoulder down to the tips of the fingers, exhibited a deep icteric coloration. M. *Lheritier* suggests the following explanation of this phenomenon: "The blood undergoes within the tissues of the body certain transformations, the *ensemble* of which constitutes the process of Nutrition. But what is the agent that ultimately presides over these changes?—the nervous system; well! in the present case the brain had experienced a violent commotion, and, in consequence of this injury, there had ensued a sort of local *anervia*, so that the nutritive transformations were only imperfectly effected; the elements of the blood had not been properly elaborated, dissociated, and combined, and the yellow colouring matter of the bile, contained in this fluid, had therefore become extravasated under the skin."

(This is but a very fanciful conjecture; the yellow discoloration of the upper extremity may have had nothing to do with the formation or excretion of the bile, and was, in all probability, merely of that kind that so generally follows upon bruises and other injuries.)

OBSERVATIONS UPON PULMONARY GANGRENE.

THE principal results of M. *Boudet's* researches on this subject are these:—

1. Gangrene of the lungs appears to be more frequent in childhood than at any other period of life.

2. It is essentially of the same nature as those other forms of Gangrene that are developed spontaneously, or under the influence of putrescent fever.

3. In the child, Gangrene, when it affects the lung, is rarely limited to this organ; usually several other parts of the body are similarly affected at the same time.

4. The lower and posterior parts of the lungs are most frequently the seat of the disease. We have often occasion to observe that it manifests a remarkable tendency to attack the adjacent organs: thus we not unfrequently find the mediastinum, and the pleura, and sometimes the œsophagus also, involved in the

destructive process. It may extend by the mere contact of the sphacelated matter, inducing gangrene in the parts with which it comes in contiguity.

5. Gangrene of the lungs may appear in three different forms: in distinct patches, in nuclei or circumscribed masses, and in a diffused and extensive superficies.

6. It may be circumscribed, and a cure may then be effected in the child as in the adult. In such circumstances, the gangrenous corruption becomes surrounded by an organized pseudo-membrane, so that in course of time it is perfectly isolated from the adjacent tissues.

7. Local causes—such as inflammation, the existence of tubercles, &c.—do not seem to have any direct influence on the production of pulmonary Gangrene.

8. Like other spontaneous gangrenes of childhood, this form seems to be always developed under the influence of causes which act on the entire system. Thus, an unsound constitution, shattered health, imperfect or unwholesome nourishment, &c. are observed to predispose to its occurrence. But the proximate cause of the disease is unquestionably a morbid alteration of the mass of blood, consecutive upon Scurvy, Measles, Scarlet-fever, and such like maladies, and which is characterized during life by the appearance of purple spots on the surface, softening of the gums, hæmorrhage from various parts, &c. and after death, by patches of ecchymosis and sanguineous suffusion, and by the extreme fluidity or dissolved state of the blood. In a chemical point of view, this state of things is most probably the result of a diminution in the proportion of the fibrin, and an excess in that of the alkaline ingredients of the blood.

9. The usual symptoms of Gangrene of the lungs are dullness on percussion over the affected part, resonance of the voice, mucous or gurgling râle, fœtor of the breath, greenish colour of the sputa, and a peculiar expression of the features, that cannot be well described by words.

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In reference to the treatment of this disease, M. *Boudet* makes the following remarks.—"It is almost always after Measles or Scarlet-fever that gangrene of the lungs has been observed to occur. Therefore, as a means of prevention, the first step to be taken should be to keep, as far as in our power, children from being exposed to the contagion of the disease. The children who may be affected with it should be carefully separated and kept apart from the other inmates of an establishment like that of the Hôpital des Enfans. Moreover, as it has been shown by the most satisfactory researches, that the Exanthemata in question are generally more severe and complicated in children that have not been vaccinated, I should most strongly urge upon all parents, as well as medical men, a more punctual attention to this most necessary precaution."

Whenever, during the progress of Measles or Scarlet-fever, there is observed any tendency to the occurrence of hæmorrhage, or sponginess of the gums, or purpural eruption on the skin, the physician should diligently examine the state of the lungs; for it is in such a state of the system that pulmonary Gangrene is generally developed. The patient should immediately be ordered the free use of a beverage made with lemon-juice or with sulphuric acid: the affected parts of the mouth should be touched with nitric or muriatic acid; acid and antiseptic gargles should be used frequently, and the body and limbs should be sponged with an aromatic acid lotion. Dr. *Boudet* assures us that he has seen, in the Salpetrière, many cases in the most advanced stage, and seemingly in a desperate condition, recover under the diligent employment of acid medicines, internally and externally administered. The acids serve to counteract the excessive Alkalinity of the Blood, while the cordials give tone to the system, and enable it to resist the tendency that exists to the loss of the Fibrin. The application of a blister or a sinapism to the legs is often a useful adjuvant; and in many cases decoction of bark, with port wine and other tonics, may be advantageously exhibited. Some physicians have spoken well of the use of the Chlorurets, given

internally as well as freely applied to the surface of the body and to the gums. As it is the lower and posterior part of the lungs that is generally affected, the position of the patient should be frequently altered, so that the seat of the disease may not always be in a depending position.—*L'Experience.*

MICROSCOPIC ANATOMY OF TUBERCLES.

THE following are some of the most important conclusions of an elaborate Memoir that was recently communicated to the Academy of Sciences.

1. The constant Microscopic Elements of tubercles are these: *a*, molecular granules; *b*, a hyaline interglobular substance; and *c*, the proper corpuscles, or globules of tuberculous matter. These globules contain a number of molecular granules, but no distinct nuclei. They are not affected by water, ether, and the feeble acids; but they are dissolved by the strong acids, as well as by ammonia and caustic potash.

2. The opinion of certain pathologists, that tuberculous deposit and its globules are only modifications of purulent matter, is contradicted by the result of microscopic inspection; the differences between them are strong and decided. The corpuscles of the latter are considerably larger, of a regularly spherical shape, and contain from one to three nuclei; they are, moreover, usually free and isolated; whereas those of tuberculous matter are, especially in the crude state of tubercles, closely joined together. The globules of Cancerous matter are twice or even four times as large, and they contain a nuclei, in which again from one to three nucleoli are often observable.

3. In Sarcocele, and also in Scirrhous and Encephaloid tumours of the mammæ, we not unfrequently find a yellowish, cheesy-looking substance, which much resembles genuine tuberculous matter; but a careful examination with the microscope clearly shows that it consists entirely of globules of Cancer infiltrated with fat.

4. When tubercles soften, their interglobular substance liquefies, the globules separate from each other, and may then, by absorbing a certain portion of the fluid, become larger: this change does not constitute an increased growth, but, on the contrary, the commencement of the process of decomposition.

5. The pus, which is found blended with the softened tuberculous matter, is supplied by the surrounding tissues, and is by no means the result of any transformation of the matter itself; but the pus, it must be confessed, quickly alters it, and renders its elements much less easily recognisable.

6. The globules of softened tubercles become ultimately dissolved in a granular fluid, and thus the *ramollissement* of their substance passes fairly to the state of diffluence.

7. The cretaceous condition of tuberculous matter presents under the microscope the appearance of amorphous mineral granules, blended often with crystals of cholesterine and colouring matter. A part of the tuberculous globules is then removed by absorption, while the other portion remains for a long time in an unchanged condition.

8. Occasionally we find in tuberculous deposit corpuscles of fat, melanosis, greenish-coloured globules, and crystals which have the form of those of the ammoniaco-magnesian phosphate. Besides these admixtures, we may find blended along with them the elements of inflammatory and suppurative action, and various sorts of epithelial exudation; all of which tend to modify the essential microscopic features of the tubercles.

9. The seat of tubercles in the lungs is usually the inter-vesicular elastic cellular (or areolar) tissue: sometimes, however, they are secreted into the air-vesicles themselves, and into the capillary bronchial tubes.

10. The semi-transparent gray granulations of the lungs are composed of tuberculous granules, interglobular substance, which is more abundant and more transparent than in the yellow tubercles, and of pulmonary fibres more or less altered in their appearance. They are not invariably the "point de depart" or primary condition of the miliary yellow tubercles; as these latter are sometimes developed as *such*, from the very commencement of their deposition.

11. Microscopic examination most decidedly exposes the fallacy of the opinion, that the gray granulation is the product or effect of inflammatory action.

12. A vomica or tuberculous excavation is in every respect analogous to a tuberculous ulcer of the skin or intestinal canal; it is not necessarily preceded by, or the result of, the suppurative process. As a general remark, it may be asserted that Phthisis is accompanied with an ulcerative diathesis.

13. *The* fluid of pulmonary excavations contains the following elements: *a*, tuberculous matter, with globules which are either much more turgid than usual, or are altogether diffluent; *b*, globules of pus sometimes in small quantity; *c*, puoid globules; *d*, granular globules; *e*, globules of mucus or of muco-pus; *f*, blood globules; *g*, pulmonary fibres; *h*, black pigment; *i*, epithelium shreds; *j*, crystals; and *k*, globules of fat. (Surely there is a good deal of hair-splitting nicety in such an enumeration as this.)

14. The cavity of a Vomica is lined with a pyogenic membrane, the formation of which may be regarded as a Curative effort of Nature to isolate the cavity from the surrounding tissue, and thus to favour its cicatrization. The cicatrization is in many cases promoted by a new secretion of fibrous matter, and occasionally also of a chalky deposit at the same time.

15. The thickening of the pleura over the seat of tuberculous deposit is the result not of inflammation alone, but also of an augmented nutrition or hypertrophe, in consequence of the increased flow to it of the blood, which formerly permeated the (now obliterated) capillary vessels of the surface of the lungs. It thus becomes a supplementary organ of circulation in Phthisis, and serves to increase the Anastomoses with the Aortic Circulation by its intimate adhesions with the parietes of the chest.

16. The Liver is often the seat of extensive tuberculous deposit; and this lesion may readily be mistaken for Cancerous transformation. The distinctive microscopic characters are most to be trusted to in the pathological diagnosis of such cases.

17. The fatty degeneration of the Liver and Heart—so accurately described by M. *Bigot*—exhibits a tendency to the internal deposit of fatty matter in Phthisis, while all the fat of the external parts of the body is at the same time entirely absorbed.

18. We occasionally find a quantity of tuberculous deposit in old membranous deposits on the Pericardium. In a case, where the Pericardium adhered firmly to the surface of the heart and all the surrounding parts, numerous Anastomoses between the ramifications of the Coronary vessels and those of the surface of the lungs were found to have been established.—*Gazette Medicale.*

Professor Forget on Adhesions of the Pericardium.

The substance of this active professor's remarks on this subject is contained in the following observations, with which he closes a lengthened narrative.

1. Pericarditis often terminates in general or partial adhesions of the heart with its enveloping Capsule.

2. These adhesions seem to succeed more especially to the *dry* (without effusion) form of the disease in question.

3. They are a potent and very frequent cause of disturbance of the heart's actions.

4. The disturbances thus induced are usually the more serious and dangerous, in proportion as the adhesions are the more recent and the more extensive.

5. The characteristic signs of recent general adhesion are the force, the tumult and confusion of the beats of the heart; the frequency, smallness, inequality, and irregularity of the pulse; the dyspnœa, precordial anxiety, and tendency to fainting; the serous infiltration of different parts; the pulmonary congestion, visceral engorgements, cyanosis, &c.

6. The sign, so much insisted upon by some medical men—viz: depression of the epigastric region during the contraction of the heart—has not been observed in a single case of pericardial adhesion in our practice; and yet we have occasionally recognised its existence in some other diseases of the heart.

7. Not any one of the symptoms enumerated above, however valuable in a diagnostic point of view, is pathognomonic of, or exclusively peculiar to, adhesions of the pericardium. It is moreover rare to find them all combined in the same case.

8. Adhesions of the pericardium may prove fatal in the acute state: or in the chronic state by inducing some other morbid lesion, such as Hydrops pericardii, &c.

9. The more ancient that the adhesions are, the less is life menaced by their existence: it may even so happen that scarcely any appreciable embarrassment is caused thereby to the movements of the heart.

10. The only advantage, so to speak, of general adhesions is, that they serve to diminish, or even altogether to abolish, the tendency to future pericarditis, just in the same manner as the provoked adhesion of the tunica vaginalis prevents the recurrence of common Hydrocele.

11. The presumed relations of adhesion of the pericardium with Hypertrophe of the heart are certainty very reasonable; but the presumption awaits the sanction of demonstration.

12. The circumstance of adhesion being a frequent termination of pericarditis is an additional motive for prompt and vigorous treatment to subdue the inflammation, when discovered.

13. The diagnosis of the formation and existence of pericardial adhesions may be useful in many respects; it may enable the physician to arrest in time the progress of the adhesive inflammation, or obviate the aggravation of those accidents which adhesions are apt to induce in various maladies, as well as in a state of health.

ON THE ANIMALCULAR CONDITION OF THE BLOOD IN DOGS.

M. M. *Gruby* and *Delafond* have recently addressed a second communication to the Royal Academy on the verminous alteration of the blood in dogs, by the presence of hematozoary animalcules of the genus *Filaria*. The principal results to which they have arrived are,

1. The proportion between the number of dogs whose blood is verminous, and of those whose blood is not so, seems to be nearly as 1 to 50.

2. Dogs with verminous blood enjoy very good health, and seem to retain all their instinctive faculties.

3. The blood in such animals is usually redder and more serous than in the ordinary condition.

4. Regimen, the sort of food, exercise, losses of blood, &c. appear to have no influence whatsoever on the number, form, and movements of the *filariæ*.

5. Two *decilitres* of verminous blood, which had been defibrinated, were transfused into the veins of an animal whose blood was not verminous, without

giving rise to the production of these animalcules in the case of the latter, during eight days after the operation. But when a *litre* of the verminous blood had been injected, *filariæ* were discoverable in the blood of the animal operated on; yet without any injury to its health being induced.

6. The *filariæ* of the blood are not found in the excrementitious matters of the animal or in any of the other humours, such as the saliva, bile, urine, &c.; nor in any purulent discharge; nor yet in the chyle or lymph. Neither do they exist in any of the simple or compound tissues of the organism.

7. The verminous condition of the blood seems to be constant and durable in certain animals, and to have no injurious influence on the state of their health and faculties.—*Comptes Rendus.*

M. Orfila's Reply to certain Misrepresentations.

1. "I had established," says this distinguished Toxicologist, "in my first Memoir on Arsenic published in January, 1839, that a notable quantity of the poison was discoverable in the blood of a dog, within one hour and twenty-five minutes after it had been received into the stomach.

"In the course of last February, M. *Chatin* announced to the Academy of Sciences that, not only in eight cases of dogs poisoned with arsenic and antimony he had been able to obtain distinct traces of both metals from the blood, but also that he had found traces of the latter metal in the blood of human patients, who had been taking large doses of emetic tartar.

"What, then, was my astonishment on reading, in an account of a recent meeting of the Academy, the following passage from a note of MM. *Flandin* and *Danger*: 'Whatever be the moment when the blood, destined for examination, be drawn from an animal that has been poisoned by any metallic substance, we never find the poisonous element in the blood.' To this assertion I shall only reply that I am ready at all times to prove to the Commission now sitting, that it is utterly inconsistent with truth.

2. "In the same note of these gentlemen we also meet with the following very erroneous statement: 'Hitherto, in judicial examinations, it has been more especially in the blood and in the heart that the experimenter has sought for the existence of poisonous substances.' Now this assertion is quite as untrue as the preceding one; for I will venture to assert that they cannot adduce a single experiment in which the examination was limited to the blood and to the heart, when the liver and some other organs could be obtained.

3. "In another letter which he has recently published, M. *Flandin*, in order the better to establish the claims which, he thinks, he has to the discovery of the important fact, that poisonous substances are found on post-mortem examinations much more abundantly in the parenchymatous substance of the Liver than in other organs of the body, pretends that in my laboratory experiments I have usually analyzed, at one and the same operation, the liver, spleen, kidneys, heart, and lungs. If such were indeed the case, I should be ill entitled to claim to myself the *idée-mere*, to which I at present allude. But this assertion of M. *Flandin* is as utterly destitute of foundation as the others, and its inaccuracy may be readily disproved by any one who will take the trouble of reading my writings with ordinary attention.

"The experiments 6, 10, 16 and 17 of my first Memoir on Arsenic abundantly show that I acted on each of the principal organs *separately*, and not conjointly. For example, in the report of the 16th, it is stated that 'the brain contained scarcely any traces of arsenic; they were rather more distinct in the lungs; and still more so in the heart and kidneys. The liver and spleen contained more than any of the other viscera.' In examining the body of *Soufflard*, I acted separately on the liver, the kidneys, and the lungs; and I can show to the Com-

mission, if they should desire it, the specimens of arsenic which I extracted from each of these viscera.

"But it is especially in my Memoir on Antimony, read before the Academy in March, 1840, that the fact now under consideration is dwelt upon in such a manner, as not to leave the slightest doubt. For, of *six* experiments described in that Memoir, *five* were performed by treating the organs separately; and I then distinctly stated, as the result of my observations, that the liver and kidney contained much more of the metal than any of the other viscera.

"In reply to the reproach that M. *Flandin* directs against me, of considering the animal body as a mere sponge that is apt to become passively charged with certain substances *floating* through its channels, I have only to say that I entirely adopt the theory of absorption that is advocated by such physiologists as MM. *Fodera* and *Magendie*."—*Comptes Rendus.*

AWARD OF PRIZES AT THE ACADEMY OF SCIENCE.

THE Commissioners, appointed to examine the works on Medicine and Surgery that had been sent in for competition, and to decide upon their claims to Academical distinction, were MM. *Breschet*, *Double*, *Serres*, *Dumeril*, *Magendie*, *Roux*, *De Blainville*, *Pariset*, *Velpeau* and *Andral* (the reporter)—men certainly that the French metropolis may justly be proud of in the present day, and whose high character is an abundant guarantee alike for impartiality and for professional judgment.

Twenty-six authors appeared on the field as candidates; and out of these the Commissioners had to select the names of those who, in their opinion, had contributed most prominently to the advancement of medical or surgical science.

The following summary of their report will be read with considerable interest.

1. The surgical operation for the Cure of Squinting was introduced into surgery some years ago. Devised and originally proposed by M. *Stromeyer*, it was performed for the first time—on the living subject at least—by M. *Dieffenbach*, at Berlin, in 1839. Within a short period, he repeated the operation a great number of times; and, ere long, it was pretty generally adopted in every country of Europe. Various changes and modifications were, as a matter of course, suggested and adopted by different operators. The results obtained have been found to vary not a little. In consequence of several surgeons submitting the results of their experience to the Academy of Sciences as claims for the *Monthyon* prize, it necessarily became an early subject of inquiry for the Commissioners to examine and determine upon the merits of the operation in question. At that time, (1841,) they felt themselves unable to come to any very decided opinion, and they therefore postponed the expression of their judgment to a future day. Since that period, the operation has been much more attentively studied, and its true value has been better ascertained; and the Commissioners therefore feel themselves warranted in now declaring their deliberate opinion, that it is justly admitted into the domain of surgery, as one of the recognised achievements of the art. For this reason they have proposed that the sum of 6000 francs be awarded, in equal proportions, to MM. *Stromeyer* and *Dieffenbach*—the one for having originated, and the other for having first performed, the operation of Myotomy for the cure of Squinting.

Respecting the modifications and alleged improvements, that have been suggested by various communicants, the Commission feels itself quite unable to determine their respective merits.

2. Under the title "Iconographie d'Anatomie Chirurgicale et de Medecine

Operatoire," MM. *Bourgery* and *Jacob* have published a work, that cannot fail, in the judgment of the Commission, to render essential services to Surgery. The plates, which are admirably executed, represent every surgical operation that is ever performed with surprising truthfulness and exactitude. A prize of 5000 francs is bestowed upon the authors.

3. If it is incontestable that the advancement of medicine is, in a great measure, due to the care with which the various changes, produced in different organs by disease, have been studied, we cannot but receive with favour every rational attempt to represent these changes in a palpable form; for it will be admitted by all that mere description, however accurate, will seldom suffice to give a just idea of them. In this respect, the artificial specimens of pathological Anatomy prepared by Dr. *Thibert* are entitled to most honourable mention. He has succeeded in reproducing, with remarkable fidelity, a variety of morbid alterations and changes of structure. Having first represented them by coloured designs, he moulds them, and then obtains casts with a material analogous to 'carton-pierre,' which is afterwards painted as near to nature as possible. The pathological characters as to form, relief and colour, are thus given with wonderful accuracy. The Commissioners have examined many specimens representing various affections of the skin and mucous membranes, especially the alteration of the intestinal follicles in Typhoid fever; also numerous diseases of the brain, liver, lungs, and osseous system; and they have been invariably struck with their remarkable fidelity and truth. They have moreover satisfied themselves that these specimens of art remain uninjured by exposure to air. As many copies may be taken from the mould as are required, and their price is very much less than similar representations in wax. It must therefore be obvious that they will be exceedingly well suited for the purpose of lecturing, and so forth. A reward of 4000 francs has been granted to Dr. *Thibert*.

4. The sum of 3000 francs is awarded to M. *Longet*, to mark the Commissioners' approval of his recent work, entitled, "Anatomie et Physiologie du Systeme Nerveux de l'Homme et des Animaux Vertebrés, avec les Observations Pathologiques relative au Systeme Nerveux de l'Homme." The author first traces with great accuracy the structure and functions of the nervous system in all the classes of Vertebrated animals, and he then applies the knowledge so acquired to the elucidation of various pathological conditions in the human body. He has collected a vast number of facts, bearing on the history of Diseases of the Nervous System, and which hitherto have been scattered over a multitude of different works. In this manner he has been enabled, at the expense of great labour, to test their comparative value, and to correct the conclusions of a more partial and imperfect observation. He has thus succeeded in advancing our knowledge of the semeiology of Nervous Diseases—a nosological group, however, which still exhibits many difficult and perplexing subjects of investigation to the pathological inquirer. In acknowledgment of M. *Longet's* meritorious researches, a sum of 3000 francs is bestowed upon him.

5. Dr. *Valleix* has published a work on Neuralgic disorders, which is well calculated to throw light on the history, and to improve and methodise the treatment of these troublesome affections. He has analyzed, with no common sagacity, the results of his predecessors' observations in this department of pathological inquiry, separating the wheat from the chaff, the practical and really instructive matter from what is merely speculative and fanciful. Hitherto, authors have attended almost exclusively to certain forms of Neuralgia, more especially when it affects the facial and the femoro-popliteal nerves; but M. *Valleix* has embraced a much wider field of inquiry, and examined with great accuracy the painful affections of the cervico-occipital, the dorso-intercostal, and the lumbo-

abdominal nerves also. The isolated production of pain in certain circumscribed points of nervous cords is a circumstance in the history of Neuralgia, which—in the double point of view of diagnosis and treatment—had not attracted the attention which it deserves, before the publication of M. *Valleix's* work. A sum of 2000 francs is awarded to him.

6. Among the works which deserve honourable mention, the Commission have much pleasure in signalizing the Memoir of M. *Amussat*, which he presented to the Concours for the Monthyon prize of 1842. It contains a summary of a great number of experiments,—accompanied with numerous illustrative drawings and pathological specimens—undertaken with the view of showing,

a. That a wound made in an artery is capable of becoming so firmly and solidly cicatrized that it is not necessary, in a great number of cases, to tie the vessel with a ligature, but only to compress it with a moderate degree of force.

b. That the coagulation of the blood—which, on wounded surfaces, is effected in the ends of the divided capillaries, in consequence of the retraction of their middle or elastic coat and also of the infiltration of blood into their cellular tunic—gives rise to the formation of a sort of solid 'mamelons,' which may materially aid the surgeon in discovering the arteries, which it is his object to tie.

c. That when a large artery is wounded, the surgeon may almost always distinguish, in the middle of the coagulum that is formed by the effused blood, a sort of crater or well which has a somewhat different colour and consistence from those of the surrounding parts, and which may therefore serve as a guide to direct the tenaculum straight to the wounded point of the vessel.

d. That various sorts of aneurismatic swellings may be produced in animals, by inflicting wounds in different manners on their blood-vessels.

While the Commissioners are willing to render every justice to the zeal and ability with which M. *Amussat* has carried out his researches, they feel bound to say that in their opinion, some of the practical conclusions, which he has drawn, are by no means satisfactorily established. For this reason, they are induced to make honourable mention of his labours, and to solicit him to persevere in their completion.

7. The work of MM. *Surrurier* and *Rousseau*, on the diseases of the air passages in man and the lower animals, merits an equally honourable notice. The researches of these gentlemen in the Comparative Pathology of the diseases in question deserve especial commendation, for they tend to throw considerable light on their history and treatment. MM. *Surrurier* and *Rousseau*, it is hoped, will find, in this public mention which is accorded to their labours for the second time, in consequence of the additions which they have recently made to their work, a fresh encouragement to the prosecution of their interesting researches.

8. Lastly, Dr. *Philippe Boyer* is entitled to honourable mention for his work on the treatment of Ulcers by compression with strips of gummed diachylon plaster, and for his truly praiseworthy exertions in extending the benefits of his method of treatment to a vast number of poor patients.

9. The physiological prize of 2000 francs is awarded to M *Laurent* for his admirable and most instructive Researches on the common green Hydra.—*L'Experience.*

ON THE TENDENCIES OF CONTEMPORANEOUS SURGERY.

THE following very judicious remarks are from the pen of M. *Janson*, ex-Surgeon in Chief of the Hôtel Dieu at Lyons.

"For a long time, the opinions of *Dessault* exercised great influence and a most imposing authority in all the schools of surgery, which did not escape the impress of the seal of that age, when physical and mathematical sciences everywhere so much predominated. Without alluding to the art of war, which then occupied the attention of the whole world, it is worthy of notice that the study of Chemistry and Natural History quite absorbed the minds of all educated persons: these branches aspired to the supreme rank in general science; and Operative Medicine sought to assume a like pre-eminence in the medical hierarchy. Surgery, thus separating itself completely from the other branches of medical science, was then unwilling to recognize anything but material facts, geometric demonstrations, and mechanical processes and contrivances; the methods which it employed, so far from being more simplified, became every day more and more complex by a 'luxe' of instruments and apparatuses, which were in reality good for nothing else, save only to encumber our professional *armamentaria*. Surgeons knew, or seemed to wish to know, nothing but Anatomy and Surgery; every one sought to distinguish himself in these two branches—the most important, it is true, but not the only positive or essential, departments of the Healing Art. Then was truly the epoch of Anatomical Surgery. If we open the works of *Sabatier*, *Lassus*, *Percy*, *Pelletan*, *Boyer*, and *Petit*, we find in every page of their writings that the classical surgery of this period was founded almost exclusively on exact, and even minute, Anatomical data; and we seldom or never meet with any allusion to medicine, any happy application of physiological truth, or any comprehensive therapeutic views apart from mere mechanical instrumentation.

"The fine genius, however, of *Bichat*, prepared the way for an epoch of reform. Without abandoning the path trodden by his Cotemporaries, and without renouncing the study of anatomy and its immediate application to operative surgery, this celebrated man clearly perceived that it was high time to bring medicine and surgery more closely together, and no longer to isolate the material study of our organs from the appreciation of their physiological phenomena.

"What *Bichat* had partially foreseen and pointed out, some of his cotemporaries were not long of carrying into effect, to the great advantage of the art, and in the genuine spirit of the unity and indivisibility of medical science. The young surgeons of this period were, every one of them, either public teachers, or authors of treatises on Physiology; and it was not until they had acquired a reputation as anatomists and physiologists, that they devoted themselves, with an indefatigable ardour, to the pursuit of Operative Medicine.

"Thus *Dupuytren* published at the same time his 'Theory of the Fractures of the Fibula,' and his beautiful 'Report on the Yellow Fever and on Contagion.' If, on the one hand, he invented his Enterotome, on the other hand, he made us acquainted with his researches on Respiration, on Absorption, and on the Movements of the Brain: and thus it was that, if he was the first Operator of his age, he was not less distinguished as the founder of pathological anatomy.

"*Richerand*, too, discussed at one and the same time the subject of fractures of the thigh-bone, and the medical treatment of Ulcers; and, if he examined with great zeal the best plan of performing partial amputation of the foot, and was the first to excise diseased ribs, it is equally worthy of notice that he has left us excellent Monographs on Scurvy and on Scrofulous Affections. He is the author, every one knows, of a most interesting work on Physiology, on the one hand; and of an elaborate Treatise on Surgery, entitled 'Nosographie Chirurgicale,' on the other.

"*Delpech* and *Leveillé*, in their Medico-Chirurgical Researches on Necrosis, Aneurisms, Hospital Gangrene, Pyogeny, and Gymnastics applied to the general treatment of diseases, have trodden the same path, and contributed to the production of like results.

Our illustrious preceptor, Professor *Roux*, in his Miscellanies of Surgery and Physiology, has discussed the various topics of fibrous tumours of the Uterus, and the phenomena of Continuous Inflammation, of Wounds and Sympathetic Affections, of Hernia and the process of Secretion. It was he who devised and first performed the operation of Staphyloraphy; and to him we owe an excellent memoir on the diagnosis of chest complaints by abdominal pressure.

"These distinguished men may be considered as the leaders or chiefs of the Epochs of what may be called Physiological Surgery—which was dominant in the schools, when the publication of *Broussais'* celebrated work, 'Doctrines Medicales,' came to give another impulsion to the system of reform, which was at this period rapidly advancing to its fulfilment.

"The start being once given, every one seemed ready to reply to the appeal that was now made to him. Medical education became much more general and complete, and all surgeons manifested an ardent wish to escape from the narrow circle in which they had been so long confined themselves. They now better understood and appreciated the many resources of nature; and, in cases apparently the most serious and desperate, they began to learn to trust more to the curative effects of these resources, collecting together with great industry and zeal numerous observations which served to give support to the *new medical doctrine*, in its application to the study and treatment of surgical diseases. They were less desirous to innovate than to make perfect, and less ambitious of operative success, than of fortunate cures obtained without the infliction of pain or the effusion of blood. The greater the progress that was made, the more confidently was it hoped that the number of cases requiring the use of the knife and the cautery, might be diminished; and we may further add that, wherever either of these painful methods was still considered inevitable, every endeavour was made to abate the induced sufferings as much as possible, by every thing that professional dexterity and moral influence could suggest.

"The art of Surgery thus acquired a character of prudence and security, which were not at all irreconcilable with boldness and decision; and the change thereby effected gave rise to a series of the most pleasing results, by which science, as well as humanity, have equally profited.

"How comes it that this period of improvement has had its epoch of retardation and arrest, and has been only of short continuance?—Ask this question of the spirit of the age, so eager after novelties, so constant in its pursuit of the marvellous, and which has so often substituted fiction in the place of actual reality. There is a restless desire, in the present day, among all classes and estates of men, for brilliant and daring doings; and surgeons have not escaped the general contamination of striving to acquire distinction, without waiting for the sanction of time and experience.

"The first blow that was directed against Physiological Surgery, and which unquestionably has checked its progress in advance, was the division of the art into several sections, or special branches, such as Opthalmology, Orthopædy, &c. &c.—a practice which now begins to be as much decried, as, a few years ago, it was extravagantly commended.

"It was thought necessary, as we have already said, that surgery, in order that it might not appear to follow either a merely routine or a retrograde course, should follow the experimenting spirit of the age, and join in the career of discovery and empiric research. At the time nothing seemed too difficult for it to accomplish. After having tried with a rare success the excision of the cervix uteri, our surgeons conceived the idea of extirpating the entire organ; after having laid open the abdominal cavity in order to find out the seat of a volvulus or internal strangulation, of the very existence of which the operator was not always sure, they sought to reduce into a precept of the art this most daring and dangerous undertaking, and also to institute a regular operation for the establishment of an artificial anus over the trajet of the Cœcum or ascending Colon.

"Experience had shown that the section of the tendo Achillis served to remedy certain deformities of the foot; forthwith, the operation of tenotomy was applied to a vast number of tendons without any discrimination, and ere long we heard of surgeons performing it with the view of straightening ankylosed joints, and redressing incurvations of the spinal column!

"Cataract patients were tormented with a variety of operations, in the hope of some plan or other being discovered to extract or depress the crystalline lens a little better than *Daviel*, and a shade worse than *Scarpa*.

"The operation for harelip was the only restoration of the face that used to be practised; but, of recent years, attempts have been made to restore the nose and the eyes, the cheeks and the chin; and, without having much regard either to the amount of pain inflicted at the time or to the troublesome consequences that may follow, the surgeon now-a-days very generally acts with an equal boldness, and often too with nearly the same means, in attempting the cure of a simple deformity, as if the very life of his patient depended on the result of the operation.

"*Hunter* proposed the application of the potential caustic for the cure of certain strictures of the urethra. In course of time, some practitioners sought to make of this method a general plan of treatment, and hence it came to pass that all cases without exception were treated either with caustic, or with incision and scarifications, and the more safe and rational method of dilatation was for a time almost entirely abandoned.

"The school of *Dessault* had much exaggerated the advantage of complicated machines for the general treatment of Fractures, and that of the present day seeks to replace every sort of bandage and splint by using moulds of plaster, in which the fractured limb is to be enclosed.

"Really one can scarcely predict where the inventive spirit of our operators might stop, if this state of things were likely to last long without being checked. But fortunately for the interests of our science, these exaggerated notions and opinions, so little accordant with the genuine spirit of enlightened Surgery, are not shared by all. But the voice of reason and truth is for a time drowned in the eager clamour of the moment. Whenever any opposition or disbelief is intimated, we are at once silenced by the sacramental words, *these are facts acquired to science*. But may we not very fairly reply to this seemingly *set-down* argument, that the multiplicity of trephinings for injuries of the skull, the radical cure of hernia by ligature, the operation for the removal of cataract by keratonyxis, the amputation of a limb to remedy the deformity of a projecting stump, the extirpation of goitre swellings, the excision of varicoceles,—not to mention many other similar undertakings—were each and all of them, considered at one time to be *facts acquired to science;* and yet where are these *facts* now! are they so much as ever head of!

"Having said so much in the way of censure, it might be fairly expected that we should now notice some of the acknowledged improvements and established discoveries, which have unquestionably been made in various departments of surgery since the beginning of the present century. But this we must reserve for another occasion. Enough, at present. As we have already said, it is not that our *science* has retrograded; it is only that our *art* has often exaggerated its importance, and unnecessarily multiplied the cases for its intervention."—*L'Experience.*

A New Method to Promote Cicatrization of Recent Wounds.

The plan recommended by M. *Reveillé-Parise* is not novel, certainly; but he has managed to give it an air of originality, by the observations with which he accompanies its exposition. It is nothing more nor less than the careful *Suction* of recent wounds, either with the mouth or by means of an air-pump, as soon after

the infliction of the injury as possible. The reasoning of our author, as to the *modus operandi* of this rather antique practice, is ingenious and deserves notice.

"If all wounds," says he, "have a general tendency to suppurate, and if their immediate union is a phenomenon of so rare, as to be almost of exceptional, occurrence, the cause of this is very generally to be sought for in the presence of foreign matters in the wound, which must be discharged, somehow or other, before the process of cicatrization can effectually take place. It is often very erroneously supposed that those foreign substances are always introduced from without, that they are on all occasions accessible to the senses, and that they may be removed with more or less difficulty, according to the peculiar circumstances of each case, by the hand of the surgeon. Now, so far from all this being the case, they often consist either of the effused or infiltrated blood, of an infinite number of minute coagula plugging up the divided vessels, or of the debris of the skin, cellular tissue, and lacerated or contused muscles, &c.—in very variable proportions, according to the nature of the wound, and the kind of instrument with which it was inflicted. Contused wounds, as might be expected, exhibit the phenomena now mentioned in the most conspicuous and decided manner. But even in the case of incised and punctured wounds, we may assert that very generally the minute foreign substances, of which we have spoken, are present in greater or less quantity, and interfere more or less with the process of cicatrization. These organic debris form a *detritus*, the elimination of which must often be effected by the process of suppuration, before the re-union of the wound can take place. To cleanse a traumatic surface is therefore a primary and most necessary indication, if we expect to induce its immediate cicatrization, or even to abridge the time necessary for this process being effected. To effect this important object, no method is at once so simple and effectual as that of immediate Suction."—*Bulletin de Therapeutique.*

M. CAZENAVE ON THE TREATMENT OF PSORIASIS.

Of local applications, two of the very best are certainly the ointments of the Ioduret of Sulphur (one or two parts to 30 of lard,) and of pitch (one part to eight of lard.) M. *Biett* (the original proposer) and M. *Cazenave* have obtained most satisfactory results from the use of the former; but then let it be remembered that internal medication was diligently pursued at the same time. There cannot however be a reasonable doubt, but that the Ioduret of Sulphur exerts a salutary modifying action on the dry and squamous state of the skin in such diseases as Lepra and Psoriasis.

M. *Cazenave* has, on more occasions than one, had an opportunity to observe that the application of the ointment by friction to one part only of the affected surface—for example, to one extremity—has been followed not only by a cure of the disease there, but also by a decided amendment of it in other parts of the body. The Pitch ointment should be applied to the scaly patches twice daily. The occasional use of an alkaline or of a vapour-bath will much promote the celerity, as well as the certainty, of a cure. The great objection to the use of the Pitch application is its smell and nastiness; bating these, it is certainly a most useful remedy. A variety of different sorts of Baths have been recommended in the treatment of squamous diseases; and certainly the practice of general ablution, in some form or another, will never be omitted by the judicious physician.

A very simple and serviceable alkaline bath may be prepared by dissolving the common carbonate of Potash in the water—in the proportion of from four to eight parts of the salt to 500 parts of the fluid, or of from four to eight ounces to an ordinary tepid bath. The sulphur-baths may often be used in obstinate

cases with very decided advantage. Neither M. *Biett* nor M. *Cazenave* have ever witnessed any good effects from baths containing sublimate of mercury, as recommended of late years by several writers. But of all baths, according to their experience, the simple water-vapour bath is unquestionably the best. As a general remark, the use of this excellent remedy should never be neglected; and no other sort of bath need ever be had recourse to, until a fair trial has been made of the steam one.

As to internal remedies, the catalogue of those which, at different times, and by different writers, have been recommended, embraces a vast number of the substances in the Pharmacopœia, besides many extrinsic and more homely formulæ. The most approved are unquestionably the preparations of sulphur, of antimony, and of arsenic, and the tincture of lytta. Sulphur, in various forms, is well adapted to young patients and persons whose skin is fair and also irritable, more especially when the disease is comparatively mild; but in inveterate cases of the disease it generally fails. M. *Cazenave* speaks highly of the Plummer Pill as a most useful antimonial: sarsaparilla tea to which a little mezereon has been added, may be taken with advantage at the same time. He has not often made use of the tincture of cantharides; although he acknowledges that, on many occasions, he has seen remarkable benefit derived from its administration, in the practice of M. *Biett*. But of all remedies, none are, in his estimation, equal to the preparations of arsenic. Under their use, the diseased patches, sooner or later become warm, red, and often somewhat tumefied; at the same time the scales drop off from their surface, and they exhibit at first an erysipelatous appearance, which is subsequently replaced by a pale hue of the skin—a precursory symptom of the shrinking and progressive disappearance of the patches. In the *Lepra Vulgaris* the discs become partially broken up, their edges subside, the circles lose their rounded figure, and the debris of each ring proceed to resolution, often with a truly surprising rapidity. In our author's opinion, arsenic and the simultaneous use of vapour-baths, constitute *the* treatment of Psoriasis and Lepra; occasionally the application of some pommades, at the same time, may accelerate the cure.—*Annales des Maladies de la Peau.*

Remarks.—A much safer, and often quite as efficacious, a remedy for Psoriasis as Arsenic, is the Liquor Potassæ, given in doses of from 15 to 30, or even 50 drops, thrice a day, in milk or beer. A weak solution of nitric acid in water will be found, in many cases, an excellent application to the scaly skin. As a matter of course, the use of baths should never, if possible, be omitted. If a regular bath cannot be procured, the free ablution of the entire surface with tepid water should be practised every night, before going to bed.—*Rev.*

STRYCHNINE A TEST FOR THE ADMINISTRATION OF MORPHIA IN NEURALGIA.

DR. *Rougier*, one of the physicians of the Hôtel Dieu at Lyons, published, last year, a work—entitled, "De la Morphine Administrée par la Methode Endermique dans quelques Affections Nerveuses, et de la Necessité de l'Usage interieur de la Strychnine pour achever le traitement et prevenir la recidive, &c."—in which he has endeavoured to show that the latter alkaloid may be used as a *test* to try the efficacy and permanence of the sedative effects of the former, in certain cases of painful disease. The Morphine is administered in the Endermic Method; and, for this purpose, Dr. R. prefers the use of the heated hammer (as recommended by M. *Mayor* of Geneva) for the purpose of vesicating the skin, to that of an ordinary blister, or of the *pommade ammoniacale.* From half a grain to five grains or even more of the morphine may be sprinkled on the raw

surface. By this powerful means, the neuralgic pain is usually speedily lulled, if it be not thoroughly and effectually dissipated. Dr. *Rougier* acknowledges that there is a greater tendency to the relapse of the pain after the endermic, than after the internal, administration of the remedy. With the view of determining whether the relief, once obtained, is likely to be permanent, he says that he has found the exhibition of strychnine to constitute an almost unerring *test*. The manner in which he employs it is the following. He begins with one-eighth of a grain twice a day, and gradually raises the dose until a grain or a grain and a half be taken in the course of the 24 hours. When, after a few days' use of the remedy, the twitches, which it generally induces in the affected limb, become so severe as to re-produce the neuralgic suffering, we may infer that the cure has been complete, if the pain daily becomes less and less, in spite of the increase of the doses. In such a case the twitches usually continue, increase in frequency and intensity for a time, but ultimately become rather inconvenient than positively painful. The use of the strychnine, as a re-agent or test of the efficacy of morphine, may then be suspended; unless indeed it be deemed advisable to continue it for the purpose of giving tone to the enfeebled muscular tissues. In the second case, on the contrary, the pain always goes on increasing, and forces us to abandon the exhibition of the remedy: the Neuralgia, having become as severe as it was before any morphia had been employed, shows that the Endermic Method had not been carried to a sufficient extent. Under such circumstances, Dr. *Rougier* recommends that it should be resumed. "An important remark," adds he, "that we have made is, that the disease, when resuscitated by the use of the Strychnine, is usually much more acute and rapid in its course than before; also, that the saturation of the system by the opium is then much more readily obtained; and that the strychnine, employed anew, has never failed to insure the patient against the eventuality of a second relapse."

Dr. *Rougier*, at the close of his work, relates several cases to prove the efficacy of Strychnine in obstinate cases of Chorea. His experience of it in this disease preceded by three or four years that of M. *Trousseau*, who has of late lauded the remedy so highly. Dr. R. acknowledges that he derived the hint from *Bayle's* Bibliotheque Therapeutique, (published in 1830,) where we read: "M. *Cazenave* has had recourse, with decided success, to this medicine (nux vomica) in a case of St. Vitus's Dance, which had resisted the use of all the most approved remedies."—*Gazette Medicale*.

UTILITY OF SAVINE IN ATONIC METRORRHAGIA.

AFTER some severe but well-deserved remarks in censure of the utter neglect of general Therapeutic Medicine during the reign of the self-called physiological school, Dr. *Aran* hails the return of a spirit of more unprejudiced investigation touching the curative virtues of many remedies, that were highly esteemed by our forefathers. Of these Savine, as an Emmenagogue, is one that deserves the notice of every practical physician. In reference to the *modus operandi* of this class of medicines, he very justly remarks: "We can readily conceive that, at a period when the Catamenial Secretion was regarded as merely a sanguineous congestion of the uterus, followed by a discharge, and occurring without any apparent use or object, medical men might seek to induce mechanically a stasis of blood in the cavity of the uterus, although doubtless they would have succeeded better if recourse had been had to drawing blood from the feet, and the employment of hot hip-baths, &c. But, since the interesting researches of MM. *Gendrin* and *Negrier* have so satisfactorily proved that the menstrual exhalation is not an effect without a cause, and that it is directly and immediately connected with the passage of an ovule from the ovarium into the uterus, we can easily

understand that the design of Nature would not be at all promoted, if we limited our efforts, in cases of amenorrhœa, to the mere induction of uterine plethora. The evolution of this ovule is a normal act in the adult female, and, like all the important efforts of the *nisus formativus*, it must require for its fulfilment the regular and healthy exercise of all the functions of the body. Hence it is to this end that all the aims of the physician should be directed, and certainly not to merely determining an accumulation of blood in the substance of the womb—a state of things, moreover, that is not always free of danger."

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"Although the Emmenagogue properties of Savine were well known to many of the ancient physicians, it does not appear that its power in arresting uterine hæmorrhage was recognised, until *Wedekind* (Hufeland's Journal) in 1799 wrote a valuable memoir on the subject. He employed it extensively not only in Atonic Metrorrhagia, but also in numerous cases of Leucorrhœa, with the most satisfactory results. But its reputation does not seem to have lasted long; and it had fallen into entire neglect, when *Gunther* (Hufeland's Journal, 1826) and *Sauter* (Melanges de Chirurgie Etrangere) again brought it into notice. The latter writes thus of its virtues: "Savine is one of the most powerful and valuable remedies, not only against sanguineous discharges and other diseases that are independent of the existence of pregnancy, and are characterized by the names of atony, asthenia, deficient contractility or power of cohesion, but also against the hæmorrhages which often precede and make us fear the occurrence of abortion, especially in women of a lax fibre who have already miscarried. I have administered the Savine in doses of from 15 to 20 grains of the powder, three times a day, with very decided success, in numerous cases of uterine hæmorrhage and threatened abortion."

The remedy has been tried pretty extensively in M. *Gendrin's* practice at the Hotel Dieu, and with very marked success, in numerous cases of uterine hæmorrhage, whether this occurred independently of gestation, or after delivery. The remedy is best suited to those cases, where there is great laxity of the system, and the hæmorrhage seems to be owing to loss of power in the blood-vessels of the womb. M. *Gendrin* occasionally combines it with sulphate of iron.—*Bulletin de Therapeutique.*

Remarks.—From this notice, it is sufficiently obvious that the properties of Savine are very like those possessed by the Ergot of rye. Both seem to exercise a direct stimulant effect on the muscular tissue of the uterus; and hence both have been employed on the one hand as emmenagogues, and on the other to arrest atonic hæmorrhage from this organ. We need scarcely add, that no judicious practitioner will administer either remedy in plethoric states of the system, or whenever there is any tendency to inflammatory excitement.—*Rev.*

REMARKS ON ILIAC PHLEBITIS IN PHTHISICAL AND OTHER PATIENTS.

THE Statistical Tables published by Dr. Burns satisfactorily establish the fact that the disease of *Phlegmasia alba dolens* occurs much more frequently (nearly nineteen times out of twenty) on the left than on the right side. Can we give any reasonable interpretation of this circumstance? May we not suppose that the passage of the blood along the left iliac vein is apt to be more or less seriously obstructed, in consequence of the not unfrequent accumulation of hardened fæces in the sigmoid flexure of the colon?

In certain states of the system, and especially in that which has been called the Purulent Diathesis, there seems to be a tendency to some of the internal veins of the body becoming inflamed, and to the consequent coagu-

lation and deposition of the blood within their cavities. It has been conjectured by some pathologists that this change of the blood precedes, and indeed is the cause of, the adhesive inflammation of the vascular parietes; and this may, very probably, be the case when pus or any other poisonous matter becomes mixed with the circulating fluid. Whatever view we take of the subject, there is no doubt that the occurrence of Phlebitis of the iliac or femoral vein, during the course of any protracted disease, is always to be regarded as a very unfavourable circumstance; seeing that a cure very rarely takes place when the disease is once fairly established. Phlebitis of the iliac vein is of not unfrequent occurrence in phthisical patients. In one of the cases related by Dr. *Toulmouche*, we read "that the left leg became very œdematous, the right one remaining quite unaffected. This swelling, as well as the existence of pain and tumefaction on the left side of the abdomen, and of tenderness along the course of the veins of the affected leg, made me suspect that the iliac vein on this side had become inflamed, and its tube partially obstructed by coagulated blood. The œdematous swelling became greater and greater, while the wasting of the rest of the body gradually increased. For two months before death, a distinct fluctuation of fluid within the abdomen might be perceived. * * * * * * * *Dissection.*—Not to mention the changes of the internal viscera, we proceed at once to notice the condition of the iliac veins. The right one was found to be perfectly normal; but the left, immediately below the bifurcation of the inferior cava, was filled with coagulated blood; and its parietes, along with the adjacent cellular tissue, were thickened. On exposing the vein and its divisions along the entire length of the limb, I observed that the iliac was much hypertrophied, and that its canal was plugged up with blood, which was the more distinctly fibrinous and the less deeply coloured, in proportion as the vessel was examined the nearer to its point of origin; whereas, in the femoral portion, the blood, though quite concreted, was dark and not so firm and consistent. The collateral branches were similarly affected. Every thing led me to believe that the phlebitis dated from the period, at which the patient began to experience pain in the deep-seated part of the abdomen on the left side, and in the corresponding extremity. When the vein was cut across, its parietes were found to be actually thicker than those of its fellow artery. The thickening of the venous tube fairly extended down below the ham." It may be mentioned that in this case there had been, at one period of the disease, the symptoms of Pericarditis—sharp pains in the region of the heart, accompanied with palpitations—and that, on dissection, a considerable quantity of serum was found in the pericardium.

In another case, where a patient died of Necrosis of the 11th and 12th ribs, accompanied with tuberculous disease of the lungs, the left lower extremity became enormously swollen with œdema, three months before the period of dissolution, while the rest of the body was frightfully emaciated. "On dissection, the left iliac vein exhibited the following appearances. Immediately below the bifurcation of the inferior cava, it (the iliac) at first almost quite empty, was found to be gradually filled with a fibrinous concretion, which had the effect of dilating it and making it appear firm and distended, as if it had been injected along the rest of its course, and so that the insulation of it and of its branches by dissection was rendered very easy. On laying it open longitudinally, it was observed to be filled, as far down as the middle of the thigh, with a coagulum adhering very strongly to its internal tunic, which was red in some points, black in others, and considerably thickened in substance. The parietes of the vessel, when cut across, were as thick as those of the aorta. The fibrinous coagulum terminated in a fusiform manner,—upwards to near the origin of the vein, and downwards to a little above the third adductor muscle of the thigh. The Saphœna vein also was much thickened as well as several of its ramifications. The intermuscular tissue of the thigh was exceedingly infiltrated, and cut, under the knife, like bacon. The muscles themselves were pale and exsanguine."

In this, as in the preceding case, the invasion of the Iliac Phlebitis was announced by the supervention of œdematous swelling of the left lower extremity, the right one being not similarly affected, but extremely emaciated.—*Gazette Medicale.*

Notice of some recent French Works on Typhoid Fever.

"The interval that separates Continued from Intermittent Fevers, is far from being the same in all cases and in all countries. There are localities where these states of Pyrexial disease,—habitually so distinct in our temperate climates—touch and almost blend with each other, so that it is difficult to say to which class individual cases, or even groups of cases, are to be referred.

"We do not at present allude to these purely hypothetical approximations that exist only in the imagination of certain authors; for example, the opinion of some Pyretologists, who seek to attribute all fevers, without exception, to the agency of Miasmatic poison, whether this arises from a vegetable or from an animal source. The approximations which we mean, are real and complete; yet such as may baffle and perplex the most experienced physicians, and in consequence of which the patient may fall a victim to an almost inevitable error of judgment. These ideas, now so generally recognized and adopted, were scarcely so much as dreamed of a few years ago,—at the period when medical researches were confined within narrow trammels, and a spirit of scepticism in reference to everything that could not be *seen*, and *felt*, and *handled*, prevailed far too extensively among the schools. But since medicine has begun to be enriched with the observations of men of almost every country of the world, and especially since distant expeditions have enabled *French* physicians to put to the test of actual experience the narrow rules and instructions which they had derived during their professional pupilage, our science has made rapid strides in advance, and the utter insufficiency of the study, however elaborate, of fevers as observed in any one climate, is now very generally recognised. At the same time, several learned writers have, from the stores of their erudition, taught us the admonitory rebuke that, on this as well as several other themes, Modern Science has forgotten and neglected many of the lessons of Ancient Medicine: of these a very important one is, that the same morbid condition may exhibit different forms and aspects in different climates and localities, as well as in different seasons and periods of the year.

"We cannot do better, in confirmation of the truth of these remarks, than quote the following passage from the work of Dr. *Gouraud*, 'On the Pernicious Intermittent Fever of Southern Climates,' published two years ago, at Avignon. 'The medical men,' says this gentleman, 'of the North, if at a leap they wish to practise in the South, fancy that grave periodic fever exhibits the same march and a like physiognomy everywhere; that it differs very little from what we see in the fevers of our own country; and that every accession or paroxysm has three stages, with distinct intermissions between each attack. They are not prepared to expect that eschars should form on any part of the surface, except where a certain degree of pressure is kept up; nor can they believe that the occurrence of *psora labialis* should fail to be regarded as invariably a most favourable symptom. Accordingly, they take their own time, bleed or vomit their patients, according as either the pulse is full or there is any sign of hepatic congestion, and fear much less to practise an ill-timed blood-letting, than to administer quinine before the febrile symptoms have fairly subsided. In short, these new practitioners of the Morea (we suppose that the author is alluding to some of his professional brethren in Greece) are quite as 'depaysés' at the bedside of their patients, as if they had passed from reading the first and third books of *Hippocrates* on epidemics, to the perusal of the writings of M.

Andral. Such a temporization too often proves fatal to the patient; and for this simple reason, because the Summer periodic fevers of warm climates are separated from those of northern latitudes by a broad abyss.'

"Dr. *Gouraud* censures very sharply the conduct of the medical officers of the French army in Algeria, for practising blood-letting so generally as they do at the commencement of the grave remittent fevers of that country, and for their timidity in administering quinine and other tonics.

"In the course of last year, Dr. *Waton* of Montpelier published a treatise on the Typhoid Fever as observed in that city, and in which he powerfully recommends the exhibition of quinine, not as a tonic or contra-stimulant, as some have proposed, but chiefly as an anti-periodic. 'We shall not be surprised,' says he, 'if the recent experiments, which have been made in the hospitals of the metropolis on the use of Quinine in Typhoid Fever, have not produced so advantageous results as might fairly have been expected from them, when we learn that the disease being not regarded as essentially remittent in its nature, the remedy was administered quite indiscriminately, and without any regard to the existing condition of the patients; moreover, that the exhibition of it was often not preceded by the use of any precursory means, the adoption of which is sometimes absolutely necessary, in order that the Quinine might produce its accustomed effects; and lastly, that it was given in a multitude of complicated cases, where it could not reasonably have been expected to have produced any benefit.'

"According to the opinion of Dr. *Waton*, Typhoid Fever is, at least in many cases, a remittent affection—characterized, not indeed by the occurrence of distinct and complete intermissions, but by a continued pyrexia which, however, exhibits regular exacerbations. These exacerbations occurring twice in the course of 24 hours, are sometimes so indistinctly marked as not to be readily recognised. If not intense, they cease under the employment of an antiphlogistic medication; but, if they are of a more grave character, they yield only to the prompt and decided use of Quinine. Whenever the exacerbations are not severe, and are complicated with any symptoms of inflammatory or congestive action in an internal organ, Dr. *Waton* recommends that blood should be drawn either locally or generally; for it is not, until after this has been done, that the Quinine acts energetically in arresting the progress of the fever under such circumstances.

"The quantity of this salt that requires to be administered, varies from 10 to 100 grains in the course of the 24 hours, according to the nature of the individual case.

"Dr. *Waton*, in the course of his observations, very freely criticizes the practice that was adopted in several cases, narrated in the works of *Andral*, *Louis*, *Chomel*, and others, and in which there had been more or less distinct exacerbations of the pyrexial symptoms during the day. In reference to one of M. *Andral's*, he thus remarks:

"'I may conscientiously assert that it is my deep conviction that, if the quinine had been freely administered in this case, the physician might probably have saved the life of his patient.'

"Dr. *Waton* mentions an important circumstance that may not be generally known; it is this: that, if the exacerbations are distinctly marked, even although symptoms of inflammatory action be present at the same time, the quinine may be administered with perfect safety, provided only that antiphlogistic measures are simultaneously adopted.

"Connected with the history of Typhoid fever, we may here allude to another work on the subject that has been recently published by Professor *Rangue* of Orleans. The gist of its contents is contained in the following extract: 'There are certain symptoms by the aid of which we may predict, from the very commencement of a fever, its character and course. During an experience of 18

years, we have never found them fail, as a most valuable means of guiding our prognosis. Whenever, during the early days of a continued Fever, whatever be its form or type, there is deposited on the gums, interposed between the molar teeth, a white pearly-looking exudation, we may feel assured that the disease will assume a grave character, if it be not treated judiciously. This symptom is of constant occurrence, not only in the Pyrexiæ, but also in all affections that are apt to become of a Typhoid character, such as puerperal fever, pneumonia, &c. If to this symptom be super-added the mulberry-juice tint of leech-bites, and commencing prostration of strength, the affection has from this moment the Typhoid character, however favourable the general symptoms may seem to be at the time. * * * To assure ourselves of the state of the gums, it is requisite that the attention should be specially directed to the part of the gingival surface, that invests the small molares. * * * The surface of the interstices, which separate these teeth, exhibits a nacreous pyramid the base of which rests on the body of the gum. * * * If the exudation, which forms this nacreous layer, is very thin, and occupies a small extent, the disease will be 'peu grave;' but, if it be thick and not easily removed with the finger, if it affects a number of the dental interstices, and it is of a grayish colour, we may confidently predict the gravity, if not the malignancy, of the disease. * * * * * In certain cases, the nacreous exudation is not limited to the gums, but extends over a larger or smaller surface of the buccal and pharyngeal mucous membrane, and it then constitutes one of the most grave symptoms of typhoid affection."

Remarks.—It is surely very fanciful to attach much importance to so subordinate a symptom as that of the gingival incrustation, as a sign to guide our prognosis in Typhoid Fever. Is not the state of the pulse and of the nervous power, not to mention that of the excretions, abundantly sufficient for this purpose? The practical observations of Drs. *Gouraud* and *Waton* are much more deserving of notice; and we sincerely trust that the advice of these gentlemen will tend to promote a more rational system of treatment of Pyrexial disease than has, for many years past, prevailed among French practitioners. We verily believe that the doctrines of *Broussais*, and his disciples, have done more to distort and pervert medical truth than all the fond vagaries that prevailed from the time of *Paracelsus*, down to that of *Brown* and his followers in Italy.

Moral Theology, in reference to Physiology and Medicine.

Such is the title of a work published last year in Paris, by M. *Debreyne*, doctor of medicine, and priest and religious brother of the order of Grand Trappe. It is intended chiefly for the use of the clergy, as a guide-book to instruct them upon many topics that appertain conjointly and simultaneously to the welfare of the soul and the body. A great variety of subjects is introduced and discussed with excellent judgment—according, at least, to the opinion of the reviewer in the Revue Medicale, to the pages of which journal we are indebted for our knowledge of its contents. Our readers, we think, will be pleased to learn something of a work, which, while in many parts it breathes a fine spirit of religious feeling, seems to be tinctured with not a little of the amusing extravagance and ignorant bigotry of the old schoolmen of the Sorbonne.

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M. *Debreyne*, as might be supposed, is a great admirer of the olden school of Physiology, as the science existed in and about the time of *Haller*. He insists much on the importance of attending to the differences of Temperament in dif-

ferent individuals—retaining the old quaternary division into the bilious, the sanguineous, the lymphatic, and the nervous.

On the physiological characters and the pathological tendencies of the last-named constitution of the body, he dwells at great length, and points out the evils, physical as well as moral, that it is most likely to give birth to. The many perturbations of social life, the immense extension of unbridled luxury among all classes, the general corruption of moral principles, the melancholy absence of proper religious feelings, the licentious, romantic (as it is called,) style of modern literature—these are the chief causes of the predominance in the present day of the Nervous Temperament, which is, it should be well remembered, less a natural constitution than a pathological condition of the system. M. *Debreyne* shows, with great earnestness, the paramount importance of educating the *heart* as well as the *mind* of young people, who are so endowed. "If the imagination," says he, "comes once to prevail, and the judgment is not rightly formed at the same time, the character of the individual will become intractable, proud, and insincere, with a sensibility that is apt to be excessive, and to be perverted by the imperious domination of violent passions. In vain may we hope to subdue this moral insanity, by the pompous dogmas of mere human philosophy;—empty labour, fruitless endeavour! Such a state of alienation of the heart can only be cured by the therapeutics of religious principles, and the power of a Christian education:"—a truth that every one is ready to acknowledge in conversation, but which is, nevertheless, almost always forgotten in the education of our children: although, to use the beautiful language of our author, "*there* lies the help and medicine for all deeply-suffering souls, and, apart from it, there is no future peace, nor life, nor safety for them, either in this world or in the world that is to come."

After giving a most faithful description of what he calls the "erotic temperament," and exposing the many ills and dangers to which it so often leads its victims, M. *Debreyne* treats, with a rare sagacity, of the offensive subjects of personal pollution and conjugal Onanism. This part of the work is written principally for the direction of Priests in the solution of some delicate questions, which often come under their notice in the secrets of the confessional.

The third part has this curious heading—of *Sacred Embryology*. In reference to the nice point when the fœtus may be considered as quick, or endowed with life, our author holds the orthodox doctrine, as expounded by *St. Basil* and *Cangiamila*, that animation dates from the very moment of actual conception. "If," says he, "the life of man ceases immediately upon the separation of the soul from the body, we may with equal reason believe that the soul becomes at once united with the body, however minute and rudimentary the latter may be. Now, as soon as the ovule is fecundated—an act which takes place at the very moment of consummated generation—it has faith, or, in other words, it believes; believing only because it is alive, and being alive, only because it is animated. The human germ or ovum is therefore animated at the very moment of impregnation.

"Moreover, do we not know, that the soul remains united with the body up to the very last moment of the mortal agony, even when almost every organ is already smitten with paralysis and death? and can we suppose that this weak breath, this feeble spark of material life, which is trembling on the very eve of extinction, possesses a higher vitality than the life of the fecundated embryo, which all must acknowledge, has at least many formative, plastic, and increasing energies within it?

"Let not the physical minuteness of the being surprise our weak reason! God is always great and infinite alike in small and in large things; or, we should rather say, there is nothing in the universe either large or small in His sight. The relative qualities of size are but the creation of our feeble understandings, and the enunciation of which is only necessary here below to enable us to appreciate

the order and harmony of the material world." Our author having thus most satisfactorily (!) proved that the Fœtus is a living being, endowed with a soul from the very moment of conception, we must be prepared to admit—(with Uncle Toby)—that every abortion, however premature, provided only that it exhibits signs of life, should be *baptized*. * * * *

"Moreover, as the uterine life of the Fœtus is not immediately dependent on that of the mother, it is obviously our bounden duty, whenever a pregnant woman dies, to extract, as quickly as possible, the child from her womb, in order that it may receive the holy sacrament of Baptism, if it be yet alive. For, in spite of many assertions to the contrary, there is good reason to believe that fœtal life often continues for a considerable time after the death of the parent. *Millot* tells us of a case, where the fœtus was found alive no less than 48 hours after the mother's death!"

M. *Debreyne* has triumphantly refuted the opinions of Professors *Velpeau* and *Moreau*, who deny the truth of these long survivals, question the accuracy of the facts recorded by *Cangiamila*, and recommend that, in such circumstances as we have alluded to, the fœtus should not be extracted from the uterus, unless it is at least five months old;—as if forsooth its spiritual attributes were to be measured by the number of weeks of its life! But, thanks to our pious author, we may now entertain the hope that a certain number of fœtuses, who might otherwise have perished, shall be saved, if not for time, at least for eternity!!

With respect to the much disputed point of medical duty, whether, in cases of difficult labour, we are ever justified in sacrificing the life of the child with the view of saving that of the mother, M. *Debreyne*, after much deliberation, determines it in the negative. "There is," says he, "a maxim that is of infallible and everlasting truth, *non sunt facienda ut eveniant bona*. The precepts of the Natural Law never admit of any dispensation whatever; and, therefore, under no conceivable circumstances, can we ever be allowed to take the life of an innocent being. But you will perhaps say, that, if the fœtus is not destroyed, the life both of it and of the mother will almost inevitably be lost. Doubtless, this is a deplorable misfortune; but, remember, by sacrificing the child, you are not sure of saving the mother; for we are expressly told by M. *Giraud*, (Journal de Medecine, par *Corvisart* et *Boyer*,) that he has often witnessed the operation of embryotomy performed, and that the mothers have generally died immediately afterwards. Besides, we should never forget that, although the child may not survive for even an hour after its birth, it may yet have received the greatest and most precious of all blessings, that of baptism."

In the *fourth* chapter, M. *Debreyne* treats of Animal Magnetism, &c. (We may here mention that Phrenology receives no favour at the hands of our reverend author: he condemns it as utterly groundless and contradictory.) The good old man shrewdly suspects that not a few of the results, produced by this marvel-working agent, are due to the mere excitement of sexual passion. "Suppose," says he, "(and indeed this is almost always the case,) it is a woman that is to be magnetized, and that it is a man who is the operator; what is the very natural consequence of the 'rapports' established between them? The imagination of the former, concentrated on what is expected to take place, and sensitively alive to the lightest pulsation and to every organic movement of her body, is apt, in highly impressionable constitutions, to experience a thousand unknown sensations;—not indeed that these arise from the agency of any magnetic influence, but merely from the attention of the individual being riveted, probably for the first time, on certain corporeal movements which were always existent, although perhaps never felt or experienced before. And, as it is a man who performs the operation, and as a woman's imagination feels, so to speak, his presence with all that increased exaltation of sensibility that has come upon her, it is the uterine system that experiences the impressions more strongly than any other part of

her body. Movements, at first of a confused and gradually of a more distinct and intelligible nature, arise in these organs; and feelings, of a vague sensuality in their commencement and subsequently of a more lively and warm desire, are produced. If the woman be chaste, such a state agitates and exhausts her system; if otherwise, it excites violent passions which are made abundantly obvious by various erotic movements. Can we wonder at all this, when we know that the magnetiser—independently of making the *passes* and of fixing his eye upon her—often takes her hands between his, and then draws his fingers over various parts of her body, now over her face, and then over her body and legs, pressing perhaps his knees against her's, and sometimes applying (we have seen this done) his lips to her stomach, and making insufflations upon it. Have we said enough to show that—in some cases at least—the use of Animal Magnetism is morally dangerous? We have heard it acknowledged by a most zealous practitioner of the art, that he has, more than once, witnessed all the excitement of actual coition thus produced in a woman. We cannot therefore wonder that Animal Magnetism, as it is called, should give rise to certain energetic effects in very impressionable systems: and, although we cannot for a moment admit the credibility of a tithe of the marvels we have heard of, yet we are not prepared to deny that it is capable of inducing some rather remarkable phenomena. Of these, one of the most constant is the Magnetic Sleep, into which certain patients are easily thrown, when operated upon. This state is not to be regarded as a normal or physiological, a natural and refreshing repose; it is rather an abnormal and unhealthy stupor, that is apt to be induced by certain 'rapports' that are more or less fitted to make a strong impression on the nervous system of highly excitable persons. This stupor does not differ in its nature from that which spontaneously occurs in some persons during ordinary slumber. In both cases it is a genuine neurosis, which not unfrequently exhibits certain so-called phenomena of *lucidity*, and during which the person is able to do what he could not in a state of waking. Now, as this lucidity is observed in certain lesions of the encephalon, and occasionally too in hysteria and catalepsy, it comes within the domain of the physiology, or rather of the pathology, of the nervous system."*

M. *Debreyne* devotes a chapter to the consideration of reputed Miraculous Cures, treating the subject with singular moderation and sagacity. Unwilling to recognise the intervention of any supernatural agency in most, if in any, of the alleged cases, he regards them as nothing more than affections of the nervous system, genuine Neuroses, that are often kept up or even aggravated by the means used to relieve them. Our worthy author relates the history of a curious case, in which it was alleged that a young woman, besides having *stigmata* on her bosom and feet, was in the habit of receiving bits of sugar and even roasted apples in a miraculous manner. The case was submitted to his judgment, to determine if any credit was to be attached to the story. His reply is so good that we must give one or two extracts from it. * * * * "This extraordinary phenomenon must be either a divine miracle, or a false one performed by the Devil, or lastly it may be a mere human trick and deception. 1. It cannot be the first; for we can discover in it no end or purpose, worthy of the interposition of

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* Animal Magnetism—and, by the by, Phrenology also—has now become quite a popular and attractive amusement. We observe by the bills of the Adelaide Gallery that, three times a week, there is "a lecture on Mesmerism, accompanied with experiments to show the phenomena of Clairvoyance, Mental Transfer, Phreno-Magnetism, Community of Taste and Feeling, Lucid Somnambulism, Catalepsy, and Mesmeric Coma!" Among the other attractions, there is a Phrenological Exhibition! the Steam Gun! Electrical Eels! a Musical Voyage! and a Pictorial Concert!

divine agency. It obviously does not serve to advance either the glory of God, nor the good of the Church, nor the salvation of souls, nor yet the welfare of humanity: in a word, this pretended miracle displays no feature of resemblance with those recorded in the Holy Scriptures; it has produced no result that is praiseworthy, edifying, or useful to mankind. We therefore are convinced that it does not proceed from God: *Digitus Dei non hic est.*

"2. It is not the work of the Devil; we cannot see what interest he can have in it. Unhappily, the Evil Spirit too easily succeeds in corrupting the minds of young persons, by feeding them with the honey of carnal and unworthy pleasures; and certainly he has no need for this end to make them eat *sugar* and *roasted apples.* Alas! in the present day, young girls are often depraved from their very cradles, *erraverunt ab utero.* In the corruption of their morals, they lose their souls, and often too, if not their lives, at least their health and comfort. How many young persons, in the morning of their existence, may say with the poet *Gilbert*,

> Au banquet de la vie, infortuné convive,
> J'apparus un jour, et je meurs:

They have tasted the baneful honey of pleasure, and though scarcely entered upon life, they, like flowers that have fallen under the scythe, fade and wither; they die, and are no more—*gustans gustavi paullulum mellis, et ecce ego morior.* In the examination of such questions as the present, we should often recal to our minds the sage remark of Marescot: '*à naturâ multa, plura ficta, à demone nulla.*'"

We need scarcely add, that M. *Debreyne* decided that it was all a deception on the part of this girl.

The last chapters of the work treat of Fasting, Abstinence, and such-like matters, not only in a physiological and hygienic, but also in a moral and ethical, point of view. We are then presented with a succinct narrative of the practices of the modern *Trappists*, with remarks on their longevity compared with that of other men in different situations of life.

In concluding his notice of this curious work on Modern Theology, the French reviewer remarks that, "if it produced no other good than that of earnestly inculcating the benefits, as well as the duty, of greater holiness and virtue in all the conditions of life, it deserves to be widely and very generally known.

This advice is applicable, in an especial manner, to all medical men. We have high authority in our favour. Has not *Hippocrates* laid it down as a necessary qualification of a physician, *primum a divinis numinibus auspicetur*; and does not *Avicenna* inculcate a similar precept in the following beautiful words? "Nec ullus medicorum, quamvis artis precepta ad unguem usque perceperit, quicquam magnâ laude dignum, aut cum prospero successu consequi poterit, nisi *pietas* ipsi curæ cordique fuerit?" It has also been forcibly remarked by an old writer: *Sanctitatis autor Deus; Dei instrumentum Natura; utriusque minister medicus est.* The perusal of such a work as this of M. *Debreyne* will, we have every reason to believe, have no inconsiderable influence in diffusing sounder and better views among many medical men than have unfortunately hitherto prevailed. It has too often been a reproach to our profession that so many of its members are, if not infidels, but very little under the influence of religious feelings. Alas! the charge is but too true; but let it not be imagined that it is the study of medicine that corrupts the heart; it is rather the corrupted heart of the medical man that depraves his profession.

On the Cure of Stammering.

Dr. *Becquerel*, having been cured himself by following the plan recommended

and practised by M. *Jourdant*, has, with the permission of the latter gentleman, published an account of the mode in which he has been relieved of his distressing infirmity. The readiness with which M. *Jourdant*—although described, in one of the French journals, as an obscure mechanic—granted permission to reveal the nature of his secret, is highly honourable to him, and deserves the thanks of the medical profession.

What is the nature and primary cause of stammering? According to MM. *Rullier*, *Voisin*, *Colombat*, *Bell*, &c., it arises from an inability on the part of the patient to co-ordinate and combine together the various actions of the vocal organs, and especially those of articulation. The 'point de depart' of this lesion of the vocal functions is unquestionably seated in the nervous system. A clever writer has defined it to be a Neurosis, consisting in a choreic spasm of the expiratory muscles, and a tetanic rigidity of those which regulate the production of the voice. We need scarcely say that the idea of there being any actual shortening in the dimensions of the tongue—an idea, by-the-by, which gave rise to the 'funeste' proposal of cutting the *genio-glossi* muscles for the cure of stammering—is utterly without foundation.

M. *Jourdant* is of opinion that the cause of Stammering consists in the precipitate emission or escape of the inspired air and of the speech at one and the same time; the stammerer expends in *blowing*, and not in *sound*, the air which he has received into his chest. Let us for a moment consider the series of phenomena, which take place in the natural and healthy condition of the organs. Whenever we wish to produce any vocal sound, we first of all make a deep inspiration and dilate the chest; then, at the moment when the act of expiration commences, the air during its escape through the *rima glottidis* produces the sound desired, and this is continued until all the inspired air has been expended. When this is the case, the person either ceases to speak, or, if he wishes to continue to do so, he makes a new inspiration, and the same succession of phenomena is reproduced and repeated. From the moment when the act of expiration begins, the chest returns to its normal condition slowly and gradually, in proportion as the sound is emitted; and the inspired air is so managed, that it escapes the more slowly as the sound is the more intense and prolonged.

In the case of the stammerer, however, no sooner has the air been inspired into the chest, than its parietes begin to contract too soon, in order to expel any excess received. The sudden contraction expels a greater quantity of air than is necessary for the production of speech; and then this large volume of air, coming into the mouth at the moment when the tongue, the lips, and the cheeks are contracting for the purpose of articulating the sound, opposes the regular action of these organs: in this manner the confusion of the speech is induced.

The primary cause therefore of Stammering consists, if this view of the case be correct, in a disturbance of the actions rather of the thoracic muscles, than of those which serve for articulating the vocal sounds; the latter lesion being only secondary and consecutive.

By the hurried and precipitate expulsion of the air in too large quantity from the chest, the sonorous waves, which serve for the formation of the voice, and which are about to be modified by the peculiar configuration that the buccal cavity must assume for each letter, are deranged and becomes confused. The muscles of articulation do not contract with readiness and ease, but are 'genés' in their movements; hence the great difficulty of pronouncing certain syllables, the more or less frequent repetition of certain others, and so forth.

From this theory of the production of Stammering springs a very obvious indication for the treatment of it; viz. to prevent the expulsion of the air 'en pure perte' from the chest during the act of speaking. The chief difficulty experienced by the stammerer consists in detaining the air in the chest, and in allowing it to escape only very slowly and gradually. To effect this object, it is especially necessary to attend to the following rules in speaking: first of all, to

make a gentle inspiration, as in the healthy state; then to make a very slight pause; then to begin to talk, taking especial care to keep *the chest continually somewhat dilated, and the abdomen slightly protruded*, giving out, all the while, as little air from the chest as possible; and lastly, before recommencing the same series of movements, to expel the air that remains behind by a *powerful expiration*. The most important point for the stammerer to attend to is to keep his abdomen slightly saillant—a position which, by causing the descension of the diaphragm, forces the chest to remain expanded. M. *Becquerel* always observed the necessity of attending to this injunction in his own case.

M. *Jourdant* generally advises his patients to mark with their thumb the three several acts which he wishes them to attend to—viz: 1, the inspiration and the rest; 2, the articulation, while the diaphragm has descended, and the chest is dilated; and, 3, the expulsion of the air that remains behind in the lungs, by a strong and forcible expiration. The greater the quantity of the air that remains in the chest for the final expiration, the better. If these simple rules be strictly attended to, it will be found that no stammering can take place, even if the person tries to do so. It requires indeed assiduous efforts on the part of the stammerer, and these too continued for several days, before he can hope to overcome the difficulties in question. Once however that he succeeds in fully understanding and reducing to practice the mechanism of the treatment, he can pursue the plan now recommended at his leisure with increasing facility and effect; for the respiration gradually becomes less and less embarrassed, and the muscles, both, of the chest and the vocal organs, become more obedient to the dictates of the will. As a matter of course, we cannot anticipate much benefit from this, or indeed from any other, method of cure, till the individual is old enough to have due command over his feelings and resolutions.—*Traité de Begayment, &c. par Dr. Becquerel.*

On the Cause of the Lassitude and Panting in Ascending High Mountains.

It has invariably been found by all travellers, who have ascended very lofty mountains, that, at a certain elevation, any muscular exertion brings on very speedily a suffocative panting of the breath, and so complete a prostration of the muscular strength as baffles the stoutest heart to overcome. For example, we learn that *Saussure*, on the top of Mont Blanc, could not advance more than 12 or 15 paces at a time, before he was obliged to stand still and even to sit down, in order to take his breath and recover his strength. When he was at rest, the only inconvenience that he experienced was a sense of slight oppression in the region of the heart—which the moment before had been beating with great rapidity, but was now tolerably quiet. On the slightest movement however he was forced again to stand still, and pant for some minutes, with his face turned to the wind. The guides, who attended the philosopher, were similarly affected.

Now, the question comes to be, how are we to account for this extreme embarrassment of the breathing and this utter powerlessness upon exertion? Hitherto no very satisfactory explanation has been given of these physiological facts. M. *Brachet* of Lyons has recently suggested the following hypothesis. "It is not," says he, "the mere rarefaction of the air that occasions the lassitude and anhelation in the circumstances mentioned, since these phenomena are, without changing the air, either not produced at all, or quickly cease to exist, when the person is at rest. Neither can it be any real fatigue that occasions them; as they are experienced the very moment that the traveller re-attempts to walk, after he has rested for a length of time, and when he seems to have quite recovered his expended strength, so that he perhaps fancies himself able to make a considerable advance.

"Assuming the principle that the arterial blood becomes of a darker and darker colour, while traversing the muscles, in proportion as these are in a state of more powerful contraction, we are readily led to the following satisfactory explanation. During the state of rest, the venous blood returns to the heart less disoxygenated than usual, and consequently it requires a less quantity of oxygen, in its passage through the lungs, to give it a vermilion colour, and the necessary amount of stimulus. On any muscular exertion however taking place, the returning blood, being then of a darker colour, has need of a larger quantity of oxygen than before. Now as the air, being in a state of very great rarefaction, cannot afford a large supply of the vital gas at once, it is necessary to make up for this deficiency by an increased frequency in the acts of respiration: hence the panting and dyspnœa that are felt. As to the lassitude that is experienced, it is only, so to speak, the phenomenon inverted, the effect become the cause. It is well known that, if the arterial blood is rendered dark, the muscles, to which it is sent, will then not receive the full amount of stimulation required, and their power of contraction will be proportionately feeble. This is exactly what takes place in persons on the top of a high mountain; the blood, made black by its passage through the contracted muscles, no longer meets with a sufficient quantity of air, in the vesicles of the lungs, to restore to it its necessary vivifying stimulus. It therefore returns to the muscles, as well as to all the other organs of the body, less and less highly oxygenated: the results of which condition are the atony of the muscular energies, and the extreme lassitude of the body."—*Journal de Medecine de Lyon.*

Remarks.—The interpretation given by M. *Brachet* is ingenious; but let it be observed, that it does nothing more than simply afford a very plausible explanation of the mode, in which the extreme rarefaction of the air at high altitudes—the essential cause of all the distress experienced—may be supposed to act on the state of the breathing and of the circulation. The observations of Aeronauts have abundantly shown that, when the body is in a state of perfect quietude, the respiratory process is but very little disturbed. It is only when any muscular effort is made—for then there is obviously a greater consumption of oxygen—that fatigue and breathlessness are experienced. We see an illustration of the same fact, wherever the breathing is from any cause embarrassed or impeded, as in Asthma, threatened Suffocation, &c. The greater the struggles that are made with the limbs, the greater is the distress and the danger; safety under such circumstances consists in the quiescence of the body, and in the moderated action of the lungs.

HYGIENIC EFFECTS OF SWIMMING.

THERE is very little doubt but this most healthful and invigorating exercise is far too much overlooked, in the present day, as a most useful and potent means of hygienic and therapeutic treatment. In not a few chronic maladies, a cure is to be expected, not so much from the administration of any drugs or medicines, as from a regulated regime in reference to diet and exercise. It is always better to evoke, so to speak, the restorative and healing energies of Nature—that may have become, as it were, dormant from want of being called into play—than to trust to the foreign and extraneous operation of man's interference, in our attempts to restore the body when feeble, and animate the mind when sickly or oppressed. Now, in no manner can this be so effectually done as by the steady and regular employment of gymnastic exercises; and of these, perhaps, none is on the whole equal to that of Swimming. All hardy and simply-living nations have borne testimony to the truth of this observation.

The Greeks and Romans fully appreciated the advantages of regular swimming exercise. In the time of Augustus, a man that could not swim was held in contempt. This Emperor ordered that as much attention should be paid to instruct his nephew in swimming, as in teaching him to read. The Spartans were obliged, by their military laws, to exercise themselves every day in the Eurotas, and the Roman soldiers were enjoined to do the same in the Tiber. These nations attached a very prominent importance to swimming, among the gymnastic exercises of the state, being well aware how admirably calculated it is to give strength and tone to the limbs, and to impart pliancy and facility of movement to the body. In this they were right; for in truth the act of natation calls into energetic play almost every muscle of the frame, without being liable to induce the troublesome consequences that not unfrequently accompany the exercises of running, leaping, riding, dancing, &c. All these latter exercises are apt to induce a more or less copious amount of perspiration—thus a considerable loss of animal matter takes place,—and may expose the person to a retropulsion of the fluids, and consequently to the risk of serious accidents. In swimming, however, there is no such liability; and, if the natatory movements are moderately and regularly performed, the play of muscular action is effected without distress; whereas in other exercises the movements are almost always apt to be excessive in certain muscles, while the rest are in a state of nearly perfect repose.

Medical men will do well to impress very forcibly on the attention of parents the excellent advantages of swimming to children, after the sixth or seventh year of their age. Independently of the moral benefit young people derive from the exercise, by diminishing their natural timidity, their physical health is thereby much strengthened and improved, and their body and limbs become more agile and graceful in all their movements. Fortunately, the Italian people have of late years began to appreciate the truth of this remark; for now we see the children of both sexes accustomed in early life to practise the healthful exercise of swimming. It is especially useful to such children as are of a lax fibre and scrofulous constitution; often have we had occasion to observe the gradual dispersion of abdominal fulness in such habits, under the steady use of swimming exercise. Sea-bathing is unquestionably to be preferred, more especially in such cases; but if this cannot be obtained, let not the exercise be neglected when a fresh-water bath can be procured.—*Guastala, Studii Medici sull' Acqua di Mare*, 1843.

Remarks.—It is almost quite unnecessary to add a single word in commendation of swimming, especially in salt water, as an important part of hygienic regime. Every young person ought to be taught to swim; and well would it be for many delicate girls, if false and foolish notions of decorum on the part of their parents did not too often debar them from using this most invigorating exercise. It should be more especially recommended when there is any tendency to spinal weakness or lateral incurvation. The regular and equipoised exertion of the muscles on both sides of the back cannot but be beneficial in rectifying the incipient infirmity.

On the Post-Natal Descent of the Testicles, and the Accidents thereby occasioned.

The subject of the following remarks is but little known or understood by the majority of medical men. *Hevin* and *Hunter* are the only writers who have endeavoured to determine the age at which the testicles usually descend into the scrotum, in cases where they were still within the abdominal ring at the time of birth: the former asserting that this evolution generally takes place about the period of adolescence, and the latter, at some time between the 2d and 6th years

of life. Though there may be some difference of opinion on this head, the main fact, however, that the testicles do descend at some time or another subsequent to birth, is admitted without hesitation by both these observers. Now, this is the very position that M. *Oustalet* has undertaken to disprove. Resting his opinion on the results of his own experience—which too has been enriched not a little by analogous observations collected by his father—this gentleman maintains, that, in a very large majority of cases, the testicles, when arrested within the abdomen at the time of birth, do not descend at all, at any subsequent period, into the scrotum.

In support of this assertion, the author relates 16 cases, as examples of the accidents—occasionally grave and severe—which are apt to be induced by this state of things: in almost every one of these cases the patient had passed the period of adolescence. The symptoms and effects observed were stiffness and embarrassment in the movements of the limbs and body, engorgement and sometimes a veritable strangulation of the testicles, scirrhous degeneration of the seminal glands, and tendency to the descent of the bowels along the inguinal canal.

After comparing the inconveniences and dangers of these accidents, on the one hand, and of the persistence of the testicles within the abdomen, on the other, M. *Oustalet* comes to the practical conclusion that, "whenever we discover at birth that one or both testicles are still within the ring, a bandage should be at once applied, and every means employed to induce a speedy obliteration of the abdominal aperture."—*Gazette Medicale de Strasbourg.*

Remarks.—It is objected by a French reviewer of this memoir, that M. *Oustalet* has not very satisfactorily established the propriety of the practice he recommends, because he has failed to show that the number of patients in whom the arrest of the testicles does really induce troublesome consequences, much exceeds that of those in whom this anomaly causes little or no inconvenience. Let us see how the truth stands in reference to this matter. *Wrisberg* has calculated that, of every 102 fœtuses at the full term, there are not fewer than 12 in whom the testicles have not yet come down. Now, if every medical man will consult his recollections of practice, it will readily be admitted that the number of cases in which the accidents described by M. *Oustalet* have been observed, is very far short of the ratio of 12 to 102: and yet this would necessarily be the case, to justify the apprehensions and consequently the practice of this gentleman.

ON THE UTILITY OF SURGICAL OPERATIONS IN CANCEROUS DISEASES.

THE grand points of this most important surgical question are to determine—1, if it be really true that Cancerous disease is primarily of a local nature, and subsequently degenerates into a constitutional malady; and 2, if extirpation, performed at an early period, prevents the occurrence of this degeneration. With the view of elucidating these matters, M. *Leroy d'Etiolles* has collected the following statistical observations. Of 801 operations, 117 were performed within a twelvemonth after the first manifestation of the disease.

Of these 117 cases, there were 61 in which the disease had returned at the time when the reports reached me. It is more than probable that this proportion would be found to be still higher, if we knew the actually present state of these cases.

The results of operations for Cancer of the Lip are curious and worthy of notice, in consequence of the difference in this respect observed in the two sexes. Of 633 cases of Cancer in the male subject, 165 were examples of Cancer of the Lip: of these 114 were treated with the knife—12 with caustics. There were

15 relapses in all; that is, about an eighth of the whole. On the other hand, of 2,148 cases of Cancer in the female, there were only 34 instances of the disease in the lip; of these, 22 were treated by excision; and in seven—nearly a third—there was a return of the disease.

This difference does not hold good of Cancer of the Tongue; for then the disease is equally fatal in both sexes. Of nine operations, in which a cancerous tumour of this organ was extirpated, three were performed within one twelve-month after the earliest appearance of the disease. In the other six cases, the patients died, the disease having previously returned.

As respects Cancerous diseases of the Mamma, we find the following data. Of 277 operations, 73 were performed within the last two years: as yet we cannot say positively what are the results. Of the remaining 204 cases, 22 of them proved fatal in the year after the operation, and in 87 others there was a relapse of the disease.

M. *Leroy* deduces the following conclusions from his researches:—

1. Extirpation does not arrest the progress of Cancerous disease.

2. This operation should not be resorted to, as a general method of treatment, except for Cancer of the skin and lips.

3. There is no necessity to extirpate Cancerous disease of other organs, except when an alarming hæmorrhage supervenes.—*Comptes rendus*

The Academy appointed MM. *Roux*, *Velpeau*, and *Serres*, to report upon this communication of M. *Leroy*.

M. Orfila's Reply to his Calumniators.

In the course of the present month, (May) M. *Orfila* has published, in the French journals, a letter addressed to his *Confreres*, in defence of his conduct, against a long-continued series of calumnies, with which he has been assailed for the last ten years. (he says,) not only as Dean of the Faculty of Medicine, member of the royal council of Instruction, and author of various works, but also as a dishonest and pretended political character. As this exculpatory epistle is viewed, by many of his countrymen, "as a document useful and important for the scientific history of the present age," it may deserve some notice at our hands.

He is accused, in the first instance, of base subserviency to government on numerous occasions, and more especially on that of his mission to *Blaye*, in 1833, for the unworthy purpose, his accusers say, "of officially ascertaining the dishonour of a captive woman—the Duchess of Berri, who was, at that time, a prisoner in the Castle—and even of using force in this unmanly office." We need scarcely say, that the charge in question is utterly without foundation, and must have arisen only from motives of personal hostility, or of base mendacious envy. The fact is, that M *Orfila*, in company with MM. *Andral*, *Fouquier*, and *Auvity*, was appointed by the then existing ministry, of which Marshal Soult was at the head, to proceed to Blaye, to report upon the state of health of the Duchess, as it was currently reported at the time that she was very seriously ill.

On their arriving at the fortress, they found indeed that she was suffering with a pulmonary catarrh; but the symptoms were not at all alarming; and the medical men, therefore, did not deem it necessary to remain longer than was necessary in order to draw up a report of her case, and consult with the Duchess's ordinary medical attendant, on the treatment to be pursued.

M. *Orfila*, it seems, was sent on a subsequent occasion, to visit the illustrious *detenue*, about a fortnight after her accouchement, in consequence of its having been again publicly alleged, that her health had suffered very much from the

imprisonment, to which she had been subjected. She refused, indeed, this time to see the medical men—that had been sent by Government from Paris; but the sole motive for this refusal was, it seemed, because she was quite satisfied with her own private physicians, and she moreover now declared that she would receive no visits from any strangers, unless she was also permitted to see her personal friends, MM. *Chateaubriand* and *Hennequin*. She, however, wrote a letter to M. *Orfila*, full of kind expressions, and conveying her regrets that circumstances prevented her from admitting him to her presence. 'Such are the actual circumstances of a mission that has been rashly and unjustly pronounced by his accusers, to be "dishonourable and utterly unprofessional."

It is unnecessary to notice the charges that have been brought against M. *Orfila*, in his capacity as Dean of the Faculty of Medicine and Member of the Council of Education, as we have no means of exactly ascertaining the truth or fairness of them; nor, even if they were substantiated, can the subject at all interest the foreign reader. We observe, by some of the French Journals, that one of his capital offences is, in having been accessory to the appointment of M. *Guerin* as surgeon to a public hospital. This was probably an injudicious step; but surely it can never justify the unmeasured condemnation which is sought to be heaped upon him. However this may be, we pass on to his defence against the very serious charge of prostituting his scientific talents in the alleged following manner.

One of the most grave reproaches with which history will have to charge M. Orfila, *is that of having perverted the duty and character of a medical man when appealed to by justice, of having accustomed the tribunals to regard him always as a sort of necessary adjuvant to the accusation, of having at pleasure transformed his mission of pity and charity into something which, in hands not so well intentioned as his own, would hold the mean between an accuser and an executioner. However, to be just in all things, we willingly state that, on one occasion, M.* Orfila *had to change his accustomed part; and that he is fairly entitled to the high distinction of having saved an innocent person from the scaffold: we allude to the well-known affair of* Chambery.

"I was not aware," replies M. *Orfila*, "that the mission of a legal physician was a mission of pity and charity; I had supposed, with all honourable men, that the *savant*, when consulted by the tribunals of justice, should restrict himself to the simple enunciation of the truth.

"Thus, because my investigations have led to the detection of crime on ten different occasions in the course of my medico-legal career, and because my evidence on these occasions was fatal to the accused, I am stigmatized as something between an accuser and an executioner! Since, too, the writer of the article against me has determined on not bestowing any praise, except for those cases in which science is instrumental in saving the accused from condemnation, I may fairly be permitted to claim some for my conduct on the following occasions, which he has, no doubt unintentionally, omitted to mention.

"In 1826, the body of a young man of the name of *Alberici*, a Carbonaro of Lombardy, was taken out of the Po. The physician, commissioned by the government to report on the case, gave it as his opinion that the man must have been thrown into the water, *after* he was strangled. Five of the national guards, who had been sent to lead *Alberici* to prison, were accused of the murder, tried, and condemned to death. Confident of their complete innocence of the charge, these men petitioned for a new trial, and submitted their case to various learned societies in Italy.

"In consequence of the discrepancy in the judgments that were received, I was requested by the counsel for the defence to investigate all the particulars, and to state my professional opinion of the case. After examining all the documents and evidence connected with the accusation, I drew up a memorial, which concluded in these words: 'That it was certainly rash to affirm that *Alberici* had

been strangled, that nothing in the documents of the cause warranted this opinion, and that the report of the post-mortem inspection had been drawn up with an inconceivable remissness."

"My efforts were crowned with entire success; for the already convicted criminals were straightway acquitted.

"2. A woman, of the name of *Trichereau*, accused of having poisoned her husband, had been kept in prison for nine months, on suspicion of having been guilty of that crime, when I was desired, in company with M. *Lesueur*, to examine and report upon the case. As soon as our report was laid before the attorney-general (procureur du roi) the accusation was abandoned, and the woman set at liberty.

"3. *Louise Lannier*, accused of infanticide, was tried before the Court of Assizes of the Seine, in July 1842. Her mother, also, was suspected of having been privy to the crime. Two medical men, that had been charged with examining the affair, gave it as their opinion 'that the death had been caused by the immersion of the infant in the fluid of a privy,'—in consequence of their having found a similar coloured fluid in the minute ramifications of the bronchi. I was consulted by the counsel for the accused, as to the value of the medical evidence that had been given, and the following is a summary of my answer:—'The question, whether fluids, in which a dead body has been found immersed, may penetrate, *after death*, into the minute bronchial tubes, has long been the subject of lively discussion. To ascertain the truth, I have made numerous and very varied experiments, sometimes on human corpses, and at other times on dogs and other animals; and the result of all these researches is, that I have come to this incontestable and uncontested conclusion, that the *presence of fluids in the extreme bronchi does not constitute a proof of submersion during life*,—since, fluids have been found to penetrate quite as far into their ramifications when the body had been immersed immediately, and even several hours, after death had taken place.' The accused were accordingly acquitted.

"4. I do not exaggerate, when I say, that there exist, at this present moment, in the Archives of the Royal Court of the Department of the Seine, more than thirty reports, almost all written in my own hand, on different cases in which my opinion has invariably and at once effected the acquittal and liberation of the prisoners.

"This part of my defence I cannot more appropriately close than by quoting the profession of faith, which I made in 1840 before the Court of Assize at Dordogne: 'I have detailed at considerable length the scientific facts of the cause in question, I have furnished all the information that has been required of me, and I am still ready to communicate whatever I know or may be desired; but let it be remembered that I am not here to speak in support of the accusation any more than in the interest of the accused; *my mission is one solely of science and of truth.* In my opinion, the last words pronounced in this Court ought assuredly to be in favour of the accused. A medical man would utterly mistake his duty, if he endeavoured to weaken or invalidate the defence, when the accused, already borne down under the weight of crushing charges, can retain no hope of escape unless this (the defence) retains all its force and full impressiveness. It belongs to the public minister to reply, and avail himself, if he thinks proper, of all the facts of science that may serve his cause: to every one belongs his own peculiar office and duty.'

"Could language like this be expected from a man who is designated as 'something between an accuser and an executioner'?

"The last charge on this head, that has been made against me, is couched in these words: *On the occasion of every new experiment, we have seen M.* Orfila *deciding the greatest difficulties of science with the same air of assurance, the same bold tone of affirmation, although perhaps, only a few years before, he was in the habit of employing means of investigation altogether different from what he em-*

ploys at the present time. We are indeed distressed to see one of the highest personages of one profession compromise the value of science and the dignity of our art by rash unguarded assertions and a presumptuous assurance, which might at once vanish on the discovery of a less fallible re-agent than has been hitherto used.

"The whole of this statement is utterly false. In my investigation of the different mineral poisons,—for it is obviously to this subject that the allusion in the foregoing passage is made,—from the time that I first pointed out the necessity of destroying all the organic matter, with which they might be blended, and the mode of effecting this, I have *constantly* made use of either the nitrate of potass, or the nitric acid; and moreover, I have always had recourse to sulphuretted hydrogen (l'acide sulfhydrique) or to Marsh's apparatus, for the purpose of discovering and making apparent the presence of the poisonous matter. Without doubt, this latter instrument has been improved since it was first introduced; but does this circumstance at all warrant the inference that the Arsenic, which was thereby discoverable when it was less perfect, is now not arsenic at all? Do we not rather see, that, so far from injuring the cause of the accused, the improved apparatus rather tends to favour it? It is especially unjust to me not to acknowledge that, since the publication of my work, I have been the first to suggest and discuss, in special memoirs, the various objections which might be made to the system which I have created, and that I have thus myself furnished weapons to serve the cause of the accused. These objections relate especially to the impurity of the tests employed, to the nature of the different soils which may be impregnated with Arsenic, to the imbibition of poisonous matter, &c. Ask the advocates of the accused if they have ever combated my reports by any other means, save those with which I have supplied them in my own writings." —*Gazette Medicale.*

M. MITSCHERLICH ON FERMENTATION.

THE act of Fermentation is produced by the formation of a vegetable being, just in the same manner as that of Putrefaction is by the formation of an animal one. The infusory animalculæ, on which the latter process depends, have been described as consisting of one or of several minute globules, grouped together side by side, and endowed with a sort of creeping or rotatory motion. According to our author's observations, the other animalcules, present in putrefying substances, are to be regarded as having been deposited in them from the air, either by insects, or in some other way which we do not so well understand.

* * * * A certain quantity of Oxygen is necessary for the due development and conservation of the Vibrios, that are found to exist in animal bodies. These animalcules are observed to be abundant throughout the entire extent of the alimentary canal, from the mouth to the anus. One of the readiest means of detecting their existence is to examine with the microscope the inter-gingival deposit, or matter which accumulates between the teeth. Occasionally they may be perceived on the surface of the skin; but M. *Mitscherlich* has never detected them either in the blood or in any of the secretions. * *

If a small portion of sugar be added to a fluid which contains these animalcules, not only do they continue to form in great numbers, but there is produced at the same time a vegetable product—viz: the ferment or Yeast. If more sugar be added, the formation of the animalcules is impeded or even entirely suspended, while the generation of the former becomes more abundant.

In a clear fluid, in which fermentation is about to commence, we observe first of all that it becomes somewhat troubled; and we discover, with the aid of the microscope, the presence of numerous globules of different sizes. Day by day these globules become larger and larger, while new ones are continually forming

at the same time. In some fermentable fluids, as in grape-juice, these globules usually remain single and isolated, the one from the other; in others, the globules enlarge in bulk and give off new ones from their sides, in the same manner as buds sprout from various vegetable forms. There is indeed a marked difference in this respect in the upper and lower yeasts, that exist in the fermented liquor of breweries: in the former, the globules are generally composite and aggregated; while, in the latter, they are almost all solitary and detached. The globules consist of a vesicular envelope and of granular matter within; the separate granules being the *Spores*, or germs of future globules. * * *

Substances, which exercise a poisonous action on the Fungi, are also found to destroy the working effects of Yeast: corrosive Sublimate may be adduced as an example. On the contrary, those substances which act energetically on the animal organism—such as the Emetic (Ipecacuan?) in the solution of which the fungi are so quickly formed—have no effect on the process of fermentation.

A great number of the Fungi, which are known as diseases or morbid growths on vegetables, have a similar agency with genuine Yeast: they give rise to great and important changes in the composition of the surrounding organic matter. Thus it is with the Fungi of trees in reference to the ligneous fibre.

These and other analagous facts unquestionably open up a new field of inquiry as to the various compositions and decompositions, which the roots of plants may produce in the soil.

The process of Fermentation presents therefore a multiple and very varied interest. It is by the development of a substance of contact, so to speak, that the decomposition of one of the most important chemical combinations is effected. This substance is now found to be an organized living existence; it belongs to one of the simplest forms of animate development, the successive phases of whose evolution may be most satisfactorily traced.—*Journal de Pharmacie*, Sept. 1843.

PROCESS OF EMBALMING.

THE method pursued by Drs. *Broc* and *Pougin* in embalming the body of Marshal Count d'Erlon—one of Napoleon's most distinguished officers—who recently died in Paris, was the following. A mixture, composed of a Solution of Corrosive Sublimate in alcohol. (500 grammes of the salt in 2000 grammes of fluid,) of a Solution of Arsenic in water, (25 grammes in 250,) and of a Solution of Aromatic Essential Oils in spirit, (24 grammes in 2000,) was injected into the lower end of the left common Carotid Artery. A portion of the mixture was also introduced into the Cavities of the pleura and peritoneum, the gaseous contents of the intestines having been previously liberated by numerous punctures in their coats The body was afterwards enveloped in a multitude of linen bandages. As a general remark, it may be stated that not more than about three *litres* of fluid altogether should be injected into the body of an adult; otherwise it is apt to exude into the bronchi, and to return by the mouth in great abundance.

THE NEAPOLITAN PHLEBOTOMIST.

THE following description of the *Salassatore* of Naples is from the pen of a recent traveller in Italy, who has published what he calls his "Medical Impressions," in the *feuilleton* article of the Gazette Medicale.

"How often have I stood before the marvellous sign-boards, over the blue-framed windows of the shops of these ministers of the lancet! Imagine to yourself a man, painted in all the naiveté of the nudities of a terrestrial paradise, and dis-

charging from every vein, which the lancet can possibly reach, parabolic jets of blood, whose streams inundate the floor. Then picture to yourself, besides, the phlebotomist himself, with instrument in hand, and kneeling in admiration of his work, like Pygmalion before the statue which he had made, and you will have a complete idea of the manner, in which the *Salassatore* announces by the aid of pictorial art, the various results of his skill. I was curious to come in contact with one of these professors of Minor Surgery, and accordingly went into his shop on the pretext of asking for leeches; for the *Salassatore*, as is most right, deals in these adjuvants of his art. He was at the further end, gravely stretched out upon a straw couch, awaiting the entrance of a customer, with that sleepy, do-nothing calm—the 'dolce far niente' sort of air—which is so characteristic of the Neapolitans. While he was engaged in taking out the leeches from the glazed earthen vessel in which they were kept, I cast my eyes round to observe the contents of the shop. It was very poorly furnished on the whole; but there was a profusion of little cases full of bandages and compresses, that were arranged along the walls from the top to the bottom. I ventured to make an inquiry about them; he told me that each compartment represented a subscriber, who came at regular and stated times to be bled; I drew back in astonishment at the bloody statistic intelligence that was given me; and for the first time in my life, rendered justice to the *moderation* of our French advocates for bleeding 'coup sur coup,' only in cases of sickness."

ON THE TREATMENT OF BUBOES.

As long as inflammatory symptoms are present, the usual treatment by leeches, poultices, and so forth, is to be steadily pursued. When suppuration has been once established, I generally apply to the centre of the bubo a small blister, (of the size of a sixpence or shilling,) the vesicated surface being afterwards kept moist with a pledget of lint dipped in a solution of Corrosive Sublimate—1 part of the salt in 32 parts of distilled water: this is kept on for two hours or so, until a superficial eschar has been formed. When this has been done, an emollient poultice is to be applied to promote the decadence of the eschar. Care should be taken that the eschar is not too deep, and that it has not destroyed the entire thickness of the dermis. The inclosed purulent matter oozes out through the pores of the latter, when the eschar falls off, and the dermoid tissue becomes agglutinated, (la peau se recolle). When the bubo has opened and begins to discharge, and sloughs present themselves, I usually dress the wound with lint that has been dipped in honeyed wine; and if this plan does not answer well, I inject under the detached skin a weak solution of the Sublimate. In the event of this treatment failing, I have recourse to small blisters, which very generally have the desired effect of causing the agglutination of the sides of the wound. It is very rare that I have found it necessary to excise the loose integuments. When the edges of the abscess are effaced, and nothing but an ulcerated surface exists, the healing process will often be found to be promoted by the use of the Styrax ointment, the balsam of Arceus, the occasional application of the lunar Caustic, or of the acid nitrate of Mercury, &c. M. *Regnaud* speaks favourably of the Creosote ointment—which in his opinion is decidedly preferable to the powdered cantharides, as recommended by M. *Ricord*—in many cases.

When the bubo is in a state of chronic induration, he has used, he tells us, with most advantage, the pommade of the proto-ioduret of Mercury, (3—5 parts to 30 of lard): blisters rank next in his estimation. He has occasionally employed, with good effects, the application of heated bricks, as recommended by M. *Henrotay* of Antwerp. The bricks, after being duly heated in a stove or

open, are enveloped in flannel and kept on the swelling by a bandage, until they cool, when they are again heated and re-applied.—*Bulletin de Therapeutique.*

Remarks.—The practice here recommended, by a surgeon too who must have had a very large experience from the post he has held for a length of time in the Marine Hospital at Toulon, seems to us to be very needlessly complicated. When the suppurative stage has commenced, might not the application of the caustic potass, so as to form an eschar of appropriate depth, supersede the more tedious operation of first blistering the skin and then applying a corrosive stimulant to it? Unquestionably the best method, as a general rule at least, of opening buboes is with caustic,—in preference to the use of the knife,—and we are therefore glad to find that M. *Regnaud* is in the habit of adopting it: the only objection we make to his practice is as to the mode of effecting this purpose. When the abscess is once fairly open, and its surface and edges are in an unhealthy condition, few applications are so good as the Tinct. Benzoini Comp. (Friars' Balsam) applied with lint: it is an admirable detergent to foul ulcers in general. Besides its stimulating and antiseptic properties, the balsam seems to act beneficially by totally excluding the admission of the air to the sore, in consequence of the varnished coating which it forms. When the ulcer is tolerably clean, but very tardy in healing, we have seen excellent effects from covering it daily with a layer of powdered rhubarb. As a matter of course, bark and other tonics are generally required to be administered internally at the same time.—(*Rev.*)

On the Treatment of Secondary and Tertiary Syphilitic Diseases.

M. *Devergie*—one of the physicians of the St. Louis Hospital, which receives a much larger number of syphilitic patients than any of the other hospitals in Paris—has, for the last eight years, met with great success, he informs us, in the treatment of the secondary and tertiary affections by adopting the following remedies. The patient is to drink every day about a quart of a sudorific ptisan, in which from five to twenty grains of the Ioduret of Potass have been dissolved, and also to take every morning, fasting, a pill composed of guiac, opium, and a minute quantity of the corrosive sublimate. In the course of a week or so, a second pill is to be taken at night also. These medicines are to be persevered with for two or even three months, without intermission. A tepid bath is to be taken once a week. No wine is allowed; but milk is given freely instead. If the patient's constitution has been much damaged by irregularity or want, M. *Devergie* recommends the use of some ferruginous preparation, or of bark, or of both together; at the same time diminishing the dose of the sublimate, if the state of the symptoms should still require its continuance.

When, after six or seven weeks' use of these remedies, the local symptoms still exhibit an unhealthy character, the application of the crystallized acid nitrate of mercury—dissolved in water, to which a few drops of nitric acid have been added—will be found most convenient. The ointment of the proto-ioduret of mercury is also a valuable application, to promote the healing of certain ulcers.

Applications of Subcutaneous Surgery.

The most remarkable feature of subcutaneous surgery is the speedy and genial cicatrisation of divided tissues, without any accompanying inflammatory re-action, or tendency to suppuration. Another important character, that deserves to be

attentively considered, is the readiness with which many fluids, when effused into the cellular texture, are absorbed and entirely removed, if the access of the atmospheric air be prevented.

The applications of Subcutaneous Surgery may be reduced to two heads; viz.: to sections, and punctures; in other words, to operations on the tissues, and to those on sacs and collections of fluid. From this two-fold view arises the consideration of the *non-inflammation* of the divided tissues on the one hand, and of the *unalterability* of effused fluids on the other. M. *Guerin* enumerates in the following catalogue the numerous applications that have been proposed, either by himself or others, to the various maladies and injuries of the different structures of the body.

1. The Skin.—The 'decollement' of the skin in cases of vicious scars and adhesions.

2. Tendons.—The section of these—*a*, for deformities; and *b*, for the purpose of facilitating the reduction of old dislocations, and of recent fractures.

3. Aponeuroses.—The section of these—*a*, as an orthopædic means of cure; and *b*, as a means of relieving the tension of the tissues in various inflammatory engorgements and effusions.

4. Muscles.—The section of these—*a*, as an orthopædic means; *b*, as a means to favour the reduction of luxations and recent fractures; *c*, for the purpose of facilitating the operation for strangulated hernia; *d*, for the radical cure of irreducible hernia; *e*, the section of the sphincter of the anus in cases of fissure; *f*, the subcutaneous cauterization of the muscles as a means of artificial contraction.

5. Ligaments.—The section of these—*a*, as an orthopædic means; *b*, as a means to facilitate the reduction of certain luxations and fractures; *c*, the cauterization or calefaction (?) of the ligaments, with the view of strengthening and contracting them.

6. Arteries.—*a*, The subcutaneous scarification or cauterization of certain fungous tumours; *b*, the obliteration of arteries by section, puncture, or scarification; *c*, their subcutaneous ligature.

7. Veins.—*a*, Their subcutaneous section and scarification in the various kinds of varicose swellings; *b*, the ligature of the veins.

8. Lymphatic Vessels and Glands.—*a*, Section of the former to promote abortive treatment in buboes; *b*, section and scarification of the latter, affected with chronic tumefaction.

9. Nerves.—*a*, The section of these in cases of neuralgia; *b*, the scarification of their minute branches in cases of sharp pain under the skin; *c*, the cauterization or calefaction of them in certain painful affections, as in arthralgia, &c.

10. Cartilages.—Subcutaneous symphyseotomy.

11. Bones.—*a*, The removal of small exostoses; (!) *b*, subcutaneous fractures to remedy certain deformities caused by irregular callus;(!) *c*, the extraction of sequestræ, and the resection of the sharp ends of fragments of a fractured bone, that threaten to force their way through the skin; *d*, scarification of the surface of a bone when tumefied and inflamed; *e*, cauterization or calefaction in similar circumstances; *f*, extirpation of osseous tumours.

Besides the above long catalogue of the applications of Subcutaneous Surgery, M. *Guerin* enumerates a variety of others, belonging to the second class of its applications, as the puncture and incision of incipient phlegmonous swellings; the puncture and evacuation of meliceric cysts, of chronic abscesses, of sanguineous tumors, serous deposits, of articular dropsy, &c.; the extraction of foreign bodies from the joints; the radical cure of Hydrocele and Hematocele; the puncture of the head in chronic Hydrocephalus, and of the dorsal swelling in Spina bifida; the puncture of the thorax in Empyema, and of the pericardium in dropsy of this sac; the puncture and evacuation of tumours of the liver, ovaries, and other abdominal cysts; and lastly, "a multitude of other operations,

which cannot be performed either by section or puncture, properly speaking; but which nevertheless may be reduced, in a certain degree, to the principal condition of the method in question, and which may be benefited by its peculiar advantages. Among these applications, I may mention the Cæsarian Section."—*Gazette Medicale.*

Remarks.—Like all modern discoverers and inventors—if indeed he is entitled to be ranked as such—M. *Guerin* greatly exaggerates the value and importance of his offspring. Modesty is certainly not a character of the present age; and no set of men seem to have so little of this grace as the doctors, when they are so fortunate as to hit upon anything that is somewhat novel, or to make a new application of an old and well known remedy. Who has not heard of chronic inflammation applied to the history of almost every disease to which the human body is subject, until nosology was deemed an empty labour, and the science of therapeutics was reduced to the application of a mere mechanical formula, which any chemist's shop-boy might understand quite as well as a *Sydenham* or a *Cullen?*

The truly valuable discovery of *Laennec* has suffered much more at the hands of its friends than of its enemies; and its extravagant laudation some years ago is beginning to give way to its undeserved disparagement in the present day.

Of later years, the doctrines of the reflex function and of the excito-motory actions, as they have been called, has been pushed by its propounder to a most wearisome length, until the profession has become sick of the endless iteration of the same thing in different guises. There is far too frequent a repetition of 'I' and 'my' in all his writings on the subject. M. *Guerin* is guilty of the same bad taste as our more talented countryman. He writes not as the expositor of truth or the interpreter of nature, but rather as an interested advocate in support of a cause which he has undertaken to uphold.—*Rev.*

Use of Colomba-Root against Vomiting.

This well-known and long established drug is an admirable remedy in many cases of *ataxic* and *nervous* Vomiting. A writer, in a recent number of the Annali Universali, mentions the case of a soldier, who was suddenly seized, after a fright, with violent pain in the abdomen, accompanied with vomiting and diarrhœa. The other symptoms gradually ceased; but the vomiting, (which was evidently of a nervous character,) still continued. The patient had a yellow cachectic look, a furred white tongue, and loss of appetite: slight epigastric pain usually preceded the coming on of the fits of vomiting. They generally returned six or seven times every day. Every thing tried failed in checking this obstinate irritability of the stomach, until—seven months after the commencement of the disease—Dr. *Manfredonia* suggested the use of Colomba: it was given in the form of powder, and in the dose of eight grains four times in the 24 hours, in a small cupful of goats' milk. A very sensible amendment in the state of the patient speedily took place, but the vomiting did not entirely cease for some time. The Colomba was subsequently given in the form of the decoction; and under its use the health was gradually, but completely, restored.

(Colomba is an excellent remedy in a great many cases of gastric ailment: a favourite formula of ours is—Infusi Colombæ ℥ vj., Liq. Potassæ 3 iss., Tinct. Humuli 3 iij., Aquæ Pimentæ ℥ iss. M. It is often very useful in phthisical patients.—*Rev.*

TOBACCO-SMOKE APPLIED TO GOUTY LIMBS.

IN M. *Reveillé-Parise's* work on Gout and Rheumatism, we read that "the fumigations of Tobacco—recently proposed by the Abbé *Girod*, canon of Nozeroy, and which consist in exposing the pained part to the smoke of the dried leaves, thrown upon heated coals, for about a quarter of an hour at a time—have been often found to afford great relief: they may be repeated three or four times in the course of the day. To guard against the return of the malady, the Abbé advises the occasional use of a foot-bath made by boiling tobacco-leaves in water."

The remedy is cheap, and may certainly be sometimes useful. Dr. *Hinard* reports very favourably of its soothing effects upon himself.

(Have any of our French brethren ever tried the homely remedy of cabbage-leaves—previously softened by steeping them in hot water, and then slightly dried—as an application to gouty and rheumatic joints? Often have we occasion to witness its good effects. Another very convenient and useful application is a wash composed of water, vinegar, and any spirit—from gin to eau de Cologne: it should always be used lukewarm, and the part should be covered with oilskin.—*Rev.*)

FALLACY OF THE NUMERICAL METHOD IN MEDICINE.

THE following very sensible remarks, in reprobation of the mistaken importance attached by *Louis*, *Forget*, *Bouillaud*, and such writers, to one of their favourite doctrines, are from the pages of the Revue Medicale—the organ of the Hippocratic School in France.

"The principles of the Healing Art should be based on the discrimination of diseases, and not on their confusion. Now it is this very nosological error that the numerical system has given rise to; and with it at first the confusion, and subsequently the negation, of all genuine therapeutic medicine. Look where we are, now-a-days, with respect to Typhoid Fever—a term of such elastic pliancy as to admit anything we choose; it is a sort of medical *goddam*, (Query, Is this a skit at English manners?); almost the sum-total of medical language of the present age. We are indeed quite well aware that the numerical system is not alone chargeable with all this confusion; Chemistry and Pathological Anatomy must come in for their share of the blame. If we would avoid the errors of our predecessors, we must be careful not to *base* the principles of the Healing Art on either of these sciences any more than on the Numerical System, that has been so much vaunted of late years. They, and indeed almost every branch and department of science, may render important services to practical medicine; but to seek to make any one its only basis, is assuredly a great folly: it is to make a principal of a mere accessory."

LONG TUBULAR MEMBRANE EXPELLED IN A CASE OF CROUP.

IN a recent number of the Brussels Journal de Medicine is narrated a case of Croup, in a child three years and a half old, where a membranous tube nearly five inches in length was expelled during the act of vomiting: on the surface of the tube were several reddish lines which looked like minute venous ramifications. The symptoms—which up to the time of the expulsion had been very alarming—immediately subsided, and the young patient afterwards rapidly recovered.

There was every reason to believe that the tubular membrane was the result of

exudation on the surface of the Trachea, and had become dislodged by the violent expulsive efforts of vomiting.

CREOSOTE, A GOOD APPLICATION TO BURNS.

CREOSOTE is one of the most valuable of those remedies which the ancient writers designated as *incarnatives*; *i. e.* promoting cicatrization. M. *Mascharpa* has drawn the attention of his countrymen (Gazzetta Medica di Milano) to its excellent effects in this respect, as an application to many ulcers. He has used it also in several cases of Burns with the most satisfactory results: it soothes the pain of the injury at the time, and accelerates the subsequent progress of the cure. The best mode of using it is in the form of lotion,—made by adding 20 or 30 drops of it to two or three ounces of water, and applied with pledgets of linen to the injured surface.

(The London Pharmacopœia, in its last edition, contains an "Unguentum Creosoti," prepared with half a drachm of the oil to an ounce of lard; it is applicable for the same purpose as the solution of the oil in water.)

ANTISEPTIC PROPERTIES OF CREOSOTE.

A SOLUTION of Creosote in water—10 drops to one *litre*—is an excellent antiseptic preparation for preserving anatomical specimens. It has the great advantage of not changing the colour or physical properties of the tissues immersed in it; and it also checks any commencing putrefaction or decay. Moreover, it does not act on the steel instruments. Pathological specimens, that have lost much of their elasticity and general form, by having been preserved for many years in alcohol, speedily regain their original aspect and characters, when they have been kept for three or four days in the Creosote Solution; and even dried preparations when treated so, will often resume the appearances which they had before they became shrivelled and contracted. The globules of Blood, Purulent matter, and other secretions may be preserved in this fluid, intact, either as to form or colour, for a length of time. M. *Pigné*, the assistant Conservator of the Dupuytren Museum, ingeniously, but perhaps rather fancifully, suggests that portions of the blood itself may be thus preserved, and alludes to the possibility of making a collection of hematological specimens, with the view of comparing the various morbid conditions of the circulating fluid.

AMMONIA IN DELIRIUM TREMENS.

In one of the recent German Journals, we find a paper by a Dr. *Schorn* on the subject of this troublesome and distressing malady. The learned doctor having experienced no little disappointment from the use of the remedies in general use, and conceiving that, as the disease is nothing else but intoxication arrived at the period of its *apogee*, it should be treated by the very same means which are known to be most serviceable against the latter, had recourse to the employment of Ammonia, in the form of the pyro-oleaginous solution, or of the Succinate of the alkali. By means of this very simple and innocuous remedy he has succeeded, he assures us, in curing a great number of very severe cases of the disease.

It deserves notice that M. *Brachet*, also of Lyons—a gentleman whose opinions

are justly entitled to consideration—has recently recommended the same remedy, Ammonia, in the treatment of Delirium tremens.

(Ammonia by itself will rarely suffice to subdue the excitement and allay the Restlessness of this Neurosis: Opium must almost always be associated with it. We have often used, with good effect, the Ammoniated Tincture of Valerian and the Liquor Opii Sedativus—not forgetting the application, at the same time, of warmth to the feet, and of cooling spirituous lotions to the head. When symptoms of febrile or inflammatory irritation are present, it may be necessary to resort to leeching, and the administration of effervescing saline draughts with Antimonial Wine).

A FLOCK OF SHEEP POISONED BY EATING THE RANUNCULUS REPENS.

THE sheep had not been many hours in the field before the shepherd observed that several of them seemed suddenly to fall down, as if they had been struck by lightning; their eyes rolled about in their sockets; their breathing was hurried and laborious; and some of them kept turning round and round as if they were dizzy, and died with their heads inclined over to their left flanks. He fancied that the seizure was owing to a "coup de sang, and bled the animals accordingly; but the loss of blood seemed to do harm rather than good, for eleven animals died almost immediately afterwards. A veterinary surgeon, who was summoned, immediately detected the cause of the mischief in the great admixture of the Ranunculi with the grass. He therefore at once recommended that the bleedings should be discontinued, and a dose of sulphuric æther in milk be given to all the affected animals. Under this treatment the alarming symptoms quickly subsided; and, although for some days the sheep remained very feeble and tottering on their legs, they all recovered completely.

ANIMAL ELECTRICITY.

SIGNOR *Matteucci* wrote to the French Academy to state that, after much trouble, he had succeeded in making a galvanic pile of five living pigeons! Both thighs of each bird were flayed; the exterior of a muscle in one pigeon was brought into communication with the internal part of the muscle in another; and so on in succession with all. In this manner he obtained a Galvanometer—which, in the first experiment, indicated 15° of a current, which was in every case directed from the interior of the muscle to the surface. The current diminished rapidly; so that, at the third experiment, a few minutes afterwards, it was not more than 6°: but still always in the same direction. The presence of effused and coagulated blood on the muscular surface is one of the causes of this diminution; for, on removing it, the current was observed to increase by a few degrees. The greatest difficulty that was experienced in conducting the experiments, was to maintain the parts in contact: Signor *Matteucci* used wooden forceps and ligatures for this purpose.

The muscular electrical current increases in intensity with the degree that the Animals, experimented upon, occupy in the Zoological Scale—a circumstance that seems to prove its chemical origin; or, more correctly speaking, its connexion with the chemical actions of nutrition and the transformation of the tissues by the contact of the arterial blood.

(This is a fair example of the trash that is far too readily admitted into many of the foreign medical journals, as well as into the communications addressed to the Academies on the Continent. When will these would-be physiological discoverers cease their bloody butchering experiments?—as if Nature would ever

reveal her secrets to those who, with barbarous ignorance, mutilate and deform her most marvellous works!

SPONTANEOUS RUPTURE OF THE ABDOMEN AFTER THE CÆSARIAN OPERATION.

A WOMAN, 37 years of age, who had been afflicted for 13 years with chronic rheumatism and softening of the bones, but who, notwithstanding, had given birth to eight children, again became pregnant, and was this time obliged to submit to the Cæsarian operation,—which was most happily attended with complete success. Between 14 and 15 months after this date, she fell once more into the family-way. In the seventh month of her gestation, she began to experience continued pain in the abdomen, which was then so pendulous that it looked like a large pouch or sac, hanging down in front, and resting on the upper part of the thighs: the gastro-hysterotomic cicatrix was visible on the surface of this depending pouch. The labour-pains became more and more violent, without effecting any good; by the 5th day, her strength appeared to be entirely exhausted.

On making an examination *per vaginam*, the outlet was found to be contracted to the smallest possible dimensions, so that the finger could not reach to the cervix uteri. The medical men in attendance were of opinion that rupture of the uterus had taken place: but, as the fœtus was dead, and as the condition of the mother was most precarious, it was deemed most advisable to leave the case to nature. About ten days subsequently, the cicatrix of the abdominal section opened, and gave issue to a fœtus, which was then in a state of putrefaction, with its appendages. Ultimately the woman recovered.—*Annales de Medicine de Gand.*

(Truly, some of these Flemish women have marvellous powers of endurance, and an extraordinary tenacity of life.)

QUININE AGAINST OBSTINATE HICCUP.

AMONG the many anomalous, and not unfrequently very obscure, results of miasmatic influence, are various affections of the digestive organs. Of these, Hiccup is a most troublesome, and, occasionally, a very intractable, one. In some cases, this gastric disorder has been observed to exhibit a distinctly intermittent character, and to be associated with the existence of other phenomena which are usually attributed to the operation of the same morbific cause. M. *Mendiere* has recently published, in the pages of the Revue Medicale, several cases of this sort, in which the distressing symptom of Hiccup was promptly and decisively cured by the free use of Quinine, after it had resisted every other mode of treatment. He has used the same remedy with good results in many cases of severe Cardialgia.

(The addition of a few drops of tinct. opii to the quinine will greatly enhance its efficiency in such cases. What an admirable remedy Opium is in almost all the Neuroses, provided the secretions are healthy at the time! The difficulty lies in knowing how to *time* its administration, and regulate its dose. We have usually found the Liquor Opii Sedativus the best form in which to exhibit it: this may be given in a bitter infusion, to which Ammonia may generally be added with advantage at the same time.)

TREATMENT OF PLETHORA.

THE treatment of Plethora is often not nearly so easy as that of Anæmia. In many cases it will not suffice merely to abstain from animal food, and to drink large quantities of simple cooling beverages, in the hope of attenuating and impoverishing the condition of the blood. Then, again, the effects of blood-letting are generally only transitory; and, moreover, the very loss of blood seems not unfrequently to induce a more active proportionate formation of it. On the whole, the use of saline laxatives, and of the Hydrochlorate of Ammonia, (sal. ammoniac.) seem to be the most useful means that can be employed for the relief of Plethora, when it gives rise to inconvenient symptoms.

Dr. *Lheritier*, in his recent treatise on Pathological Chemistry, informs us that he has found that the proportion of the red globules in the blood of rabbits was decidedly modified by the internal use of this salt, in the course of two or three weeks.

(The Nitrate of Potass has similar effects; so also have the alkaline subcarbonates, and the Liquor Potassæ itself. Perhaps the latter is, on the whole, the most efficient impoverisher of the blood, provided also the diet is spare and not too nutritious, and all malt-liquors are avoided.)

USEFUL HINT TO HOSPITALS.

"IN the hospital at Frankfort, I noticed a peculiarity in the make of the mattresses which deserves to be noticed. They consist of three portions or compartments, which are perfectly joined into one when the bed is made; but which are readily separated from each other, so that any part may be removed and cleaned at a time without the others. As a matter of course, it is the middle one that generally requires to be so treated. By this simple arrangement, the mattresses may be, at a very small expense, always kept in cleanliness and order."

ON THE PROTECTIVE INFLUENCE OF VACCINATION.

THE general conclusions, drawn by Dr. *Retzius* of Stockholm from his observations of small pox and the effects of vaccination in Sweden, are these: "The protection, afforded by vaccination from the close of the second year of life against the contagion of the Variolous poison, usually lasts unimpaired to the end of the thirteenth year or so: after this period it begins to lose its effect, and gradually becomes more and more uncertain on to the twentieth or twenty-first year of life. For the next four or five years, the disposition to the small-pox seems almost to have recovered its original integrity; and this state of liability continues unimpaired up to the age of forty years or so. At about this epoch of life, it begins to approach nearer and nearer to the limit of its existence—which it reaches, in the majority of cases, about the fiftieth year,—the period when the general revolution of the human body commences to take place."

(The practical inference to be drawn from these remarks is the propriety of repeating vaccination in about thirteen or fourteen years after its first performance. This advice is in accordance with the observations of the most experienced practitioners: it would be well, if it were more generally acted upon.)

A Nut for the Ultra-Phlebotomists.

"I have seen," says *Bordeu*, that truly *spiritual* and lively writer, "a physician who put no bounds to his fondness for bleeding. If he had bled a patient thrice, he repeated it once more, for the good reason that there are four divisions of the world, four seasons in the year, and four cardinal points in the compass; after the fourth bleeding, a fifth was required, because there are five fingers to each hand; to the fifth he added the sixth, for that God created the world in six days; six!—oh! there must be seven, since the week has seven days, and Greece had seven Sages; an eighth was necessary to make the number even; and a ninth, *quia * * * numero Deus impare gaudet.*"

An amusing anecdote is told of *Barthez*, another celebrated physician of last century and cotemporary of *Bordeu*. During the excitement of the French Revolution, his house was assailed by the mob, in consequence of his having published a pamphlet in vindication of the nobility. He presented himself at his door without fear, exclaiming to the rabble, "you may break my windows, but you cannot touch my arguments." He had a bitter enemy in the person of *Linguet*, a turbulent sarcastic lawyer of the day, who, in a satirical poem, addressed him as a

Ministre de la mort, tyran de la nature,
Assassiner par art, guerir par conjecture.

Consecutive Effects of Excision of the Lower Jaw.

In consequence of the division of the muscles, which attach the tongue to the jaw, there is a tendency to such a retroversion of this organ into the pharynx as to obstruct, more or less completely, the admission of the air into the *rima glottidis*. This evil is to be prevented by passing a ligature through the *frænum linguæ* and keeping the tongue forward. In some cases this retroversion is a work of very gradual occurrence; so that the breathing of the patient becomes more and more impeded, and life is extinguished by a process of slow asphyxia produced by the displacement of the tongue backwards, and the consequent obstruction of the pharynx. This seems to have been the occasion of death in a case of M. *Gerdy's*, in which the patient sunk on the ninth day after the operation, without any very evident cause. M. *Vidal* compares the death in this patient with that which is apt to occur after the operation of tracheotomy, when the artificial opening in the air-pipe is not kept sufficiently open: life becomes very gradually extinguished, and the patient dies tranquilly from a process of genuine, but very slow, asphyxia. He therefore strongly urges the necessity of paying constant attention to this circumstance.

He mentions, also, another of the subsequent, and so to speak, *chronic* effects of removing the lower jaw—viz: the lesion in the functions of digestion and the circulation, occasioned by the contraction of the laryngo-pharyngeal orifice: a state of chlorosis or anæmia is apt to be induced, and this has proved fatal.—*Annales de la Chirurgie.*

Fatal Hæmorrhage from a Varix of the Vulva.

In a late number of the Berlin Medical Gazette, we find the following case related:—

A woman, pregnant of her fifth child, had, for a length of time, been annoyed

with a large swelling on the left labium. One evening, immediately after going to bed, she was suddenly seized with a profuse hæmorrhage from the vulva. The midwife was accordingly summoned to her assistance; but she, finding the alarming state of the woman, sent off at once for Dr. *Hesse*. On his arrival, the patient was already in the agonies of death: the bed and floor were covered with dark coagulated blood. On examination, the orifice of the vagina was found closed, and its canal quite dry. The Cæsarian operation was immediately performed; but the child was dead. The uterus was quite empty of blood: and the placenta adhered over its entire extent. No distinct tumour was now visible on the vulva, although the labium was still flabby and voluminous. When it was pressed, a jet of dark blood flowed out from a wound that was not more than half an inch in extent. This wound led backwards, in the direction of the perineum, to a cluster of varicose veins, one of which had burst.

TREATMENT OF CHRONIC CATARRHAL OPHTHALMIA.

M. *Reveillé-Parise* strongly recommends the decoction, or a strong infusion, of Rhatany root, as a lotion with which the affected eyes are to be bathed. Besides acting as an astringent, this remedy seems to have some other mode of operation; for we do not find that similar preparations of oak-bark or of gall-nuts—although both of these contain a large proportion of tannin—are equally efficacious, as Collyria in the Ophthalmia alluded to. The application should be used lukewarm, and a few drops of Goulard's Extract may be added to it, if deemed proper.

LARGE DOSES OF NITRE IN INFLAMMATORY DISEASE.

M. *Desportes* (Bull. de Therapeutique) has written a long paper with the view of pointing out the powerful antiphlogistic or contra-stimulant properties of Nitre, when administered in full and frequent doses, in a variety of the Phlegmasiæ. In Bronchitis and other thoracic diseases, although often inducing nausea and consequently a depression of the circulation, it is not so decidedly useful as in Acute Rheumatism and Gout: in many cases, however, of Hæmoptysis it is a truly admirable remedy.

(There is nothing new in the free exhibition of nitre or salt-petre as a remedy in the treatment of the phlegmasiæ; although some of the French writers, in the present day, seem to suppose that they are the discoverers of its virtues. The readers of *Sydenham*, and other writers of his age, know well how largely it was used by them. Like every other good remedy, it is liable to be abused; and certainly M. *Desportes* and M. *Martin Solon* are guilty of egregious blundering, when they fancy that Rheumatism, for example, may be most quickly and effectually cured by *monstre* doses of nitre. This is one of the many, not only silly but hurtful, results of the ignorant experimenting spirit of Modern Medicine.)

Clinical Review.

REPORT OF CASES ILLUSTRATING DISEASES OF THE BRAIN AND NERVOUS SYSTEM. [Guy's Hospital Reports, April, 1844.]

BAGLIVI seemed to think that diseases of the lungs offered the greatest difficulties in the way of diagnosis. Thanks to auscultation and percussion, affections of the respiratory apparatus are now more easily distinguished than those of any other internal organ—excepting, perhaps, the heart. Undoubtedly the maladies, functional as well as organic, of the encephalon, are the most puzzling of the complaints which present themselves to the medical practitioner.

The paper on Cerebral Affections, in Guy's Hospital Reports, is without the name of any author or reporter. But it is one of some importance, and demands notice in a practical journal.

Case 1. *Arachnitis.*—A female aged 19, a servant, was admitted, after an illness of a fortnight, labouring under pain in the head and loins, fever, and occasional delirium. The usual remedies had been used. There was strabismus—injected tongue, coated yellow—dry skin—pupils rather contracted, and unaffected by light, pulse small and frequent—abdomen rather tender on pressure—answered questions somewhat incoherently.

"She was ordered to have beef-tea and arrow-root; and after taking three grains of calomel, followed by half an ounce of castor-oil, the following treatment was prescribed:—

Hyd. c̄ Cretâ gr. iij. ter die sumend.
Ung. Hydrarg. ℥i. singulis axillis bis die infricand.
Empl. Cantharidis pone singulas aures applic.
Sinapismata singulis pedibus.

The bowels were twice acted on. She passed a very restless night, with much incoherence; the gums were tender on the day following; the pulse 112, very small and weak; the subsultus tendinum and delirium continued; and a collection of puriform mucus in the trachea and bronchi interrupted respiration, and was with difficulty expectorated, and that without cough. The mercurials were omitted; and she was ordered,

Ammon. Sesquicarb. gr. iv. ex Infusi Serpentariæ ℥i. 4tis horis sumend.

"*March* 25.—She had passed an equally restless night, with grinding of the teeth, catching at imaginary objects, subsultus, and muttering delirium: the urine was passed involuntarily. Respiration was less obstructed; but she appeared to refer to the larynx as the seat of pain: the pulse were exceedingly feeble and rapid, and the gums were decidedly under mercurial action.

"Brandy, beef-tea, &c. were administered without rallying her; and she died in the evening, but without having had any convulsions.

"*Sectio Cadaveris*, fifty-four and a half hours after death. *Head.*—The vessels of the pia-mater were much congested; numerous glandulæ Pacchioni were seen on each side of the longitudinal fissure. Beneath the arachnoid on the convexity of the hemispheres, there was some opaque albuminous effusion, with thickening of the membranes. At the base of the brain there was considerable serous effusion, as far backwards as the pons Variolii; and about the optic commissures there was much opaque albuminous deposit. The convolutions were flattened, and closely packed: the puncta vasculosa were numerous and large; the lateral ventricles contained more fluid than is usually found.

"*Thorax.*—There was congestion of both lungs posteriorly, with a circumscribed spot or two of hepatization of the size of a shilling in the right lung. There was vascular turgescence of the bronchial membrane, and a frothy mucus in the tubes.

"*Abdomen.*—The aggregate and solitary glands were prominent and vascular, but no ulceration was observed. There was considerable hepatic venous congestion.

"The remaining organs were found healthy in appearance."

Another case of arachnitis follows; but not presenting any material difference, either in symptoms or post-mortem appearances.

CASE 2. *Hydrocephalus.*—This was a delicate child, four years of age, with expanded head, and former good health and quick intellect. During the last two months complained of drowsiness—strabismus of right eye—pain in the abdomen, followed by febrile symptoms of the infantile remittent character.

"On admission, his aspect was pallid and subdued; the face looked puffy; the pupils were dilated and sluggish; he lay in a kind of quiet stupor; and complained, when asked, of pain in the forehead and occiput. The sutures were closed and ossified: the surface of the head was hot, and that of the body harsh and dry: respirations were 30 in the minute; the pulse 132, small and regular; the abdomen flat, and painful on pressure in the epigastric region; the tongue pale and white, with prominent papillæ: he had anorexia and slight thirst. The alvine evacuations were dark, scybalous and offensive. The urine was loaded with lithates, and was slightly albuminous as tested by exposure to heat."

Head shaved—leeches to temples—calomel and castor oil, &c. He continued much the same for five days, when he became worse in all respects. Blisters—mercurial frictions. After some variations, he sunk on the eleventh day after reception in hospital.

Dissection.—"The convolutions of the brain were flattened and pale: the arachnoid dry; the lateral ventricles distended with serum; the foramen of Munro was enlarged and irregular; the posterior portion of the fornix softened. The cerebral substance in the other parts appeared healthy: the sub-arachnoid tissue at the base of the brain was much infiltrated, pale, and opaque.

"Tubercles were distributed through both lungs, and their edges were emphysematous.

"The right side of the heart was turgid: the mesenteric glands were hypertrophied and indurated: the other viscera were healthy."

CASE 3. *Local Paralysis—Neuralgia.*—This case was more fortunate than the preceding ones. Anne Tilson, aged 47, admitted August 7, 1843. Two days previously was attacked suddenly with pain behind the right ear, and tumefaction of the part, and numbness of the whole side of the face. The mouth was drawn to one side, and she was unable to shut the right eye. The right half of the tongue was insensible—articulation confused. Thus it appeared that the three divisions of the fifth, and the portio dura, were paralyzed. Low diet—cupping on the nucha—five grains of pil. hydrarg. with fifteen grains of soda thrice a day. In two days the gums were tender. After this she improved, but, on leaving the hospital, the features were still distorted.

These affections of the facial nerves, both neuralgic and paralytic, are daily becoming more numerous.

CASE 4. A young man had been a victim to hemicrania, after long exposure to miasmata. Every remedy was tried, including mercury, colchicum, quinine, arsenic, iodide of potassium, and large doses of stramonium without the slightest benefit. At length, a discharge of blood and matter took place from the right

ear, when the hemicrania disappeared. We observe that stramonium and arsenic were continued for some time after the abscess broke; but we confess that it appeared a useless precaution; for it was nature, and nature only, that cured the complaint.

We pass over two cases—one of scrofulous tumour in the brain, with softening, convulsions, and paralysis:—the other a case of tubercles in the brain, as offering nothing new or interesting.

Several cases of chorea follow, but do not demand much notice in this place. Purgatives, arsenic, and sulphate of zinc, appear to be the chief remedies employed at Guy's Hospital, for this troublesome complaint.

Case 5. *Hemiplegia.*—A man, aged 72, strong-built, and of florid complexion, was admitted March 20, 1843. Five years previous to admission had had scarlatina, without dropsical effusions. Two months after this, was suddenly seized with hemiplegia of the left side, not affecting the intellect, and passing off in a few days. Two days before admission, had vertigo, dimness of vision, tinnitus aurium, headache, &c. On the morning of admission, was seized with paralysis of left arm and leg. The mouth was drawn to the left side. The urine was coagulable, specific gravity 1.008. The abstraction of a few ounces of blood caused tremor and sinking of the pulse, which rose again to 80. The motions were passed in bed. On the third day, gout appeared in the left hand. After this he gradually got lower, and lower, and sloughing took place on the nates, which terminated his existence, the urine being albuminous till the last. There was no examination *post mortem*.

Case 6. *Cerebral Disease with Amaurosis.*—W. C. aged 27, married and temperate, had been subject to failure of sight at particular hours of the day, together with giddiness and headache. On admission, the countenance had a somewhat idiotic appearance—the cardiac sounds over an increased space—pulse 72—trembling of the limbs, and sense of numbness in left arm—daily recurrence of amaurosis. This was 17th Nov. 1841. Ordered low diet and purgatives, with a seton. On the 21st there was a considerable febrile re-action, requiring depletion. After this, mercury and iodide of potassium were given, and the mouth made sore. The attacks of amaurosis became less frequent, and at length disappeared. He left the hospital much improved in general health.

Case 7. *Hysterical Epilepsy.*—A girl, aged 16 years, had menstruated during the last year, once a fortnight, with leucorrhœa intervening. Three weeks before admission had a fit, apparently epileptic, preceded by sickness after eating. The fit was sudden, and she remained unconscious for more than an hour, in an outhouse, and unseen; this was followed by headache and pains in her limbs. She had a second attack, both at the approach of the catamenia. On admission, the heart's action was very irritable, pulse 100. Thoracic and abdominal viscera sound. Sulphate of zinc was administered, at first in doses of two grains thrice a day, increased to eight grains ter die, without sickness or other inconvenience. She was soon discharged cured.

Case 8. *Spinal Meningitis.*—A young man, aged 19 years, temperate in his habits, and healthy till within 18 months ago, when he had been in the hospital for pleurisy. After discharge he became affected with scarlatina, followed by wandering pains in his neck and loins, with general malaise. He had been an out-patient for the supposed rheumatic pains; but was admitted, May 7th, with symptoms of fever—pains in the neck and loins—disinclination to turn in bed—tetanic rigidity of the muscle of the back, &c. Three days afterwards he lost the use of his arms for a time, with temporary cessation of pain, but returned with motion. Next day convulsions came on, with foaming at the mouth, dis-

torted features, clenched hands, insensibility—tonic rigidity of neck—trismus—death.

Post-mortem.—Skin slightly jaundiced—veins and sinuses of head large and congested—puriform fluid exuding, apparently from the centre of the spinal cord, just below the medulla oblongata—effusion of lymph and puriform albuminous matter between the arachnoid surfaces, and beneath the arachnoid itself, rendering these membranes slightly adherent and opaque. The lungs were adherent posteriorly, and congested. Liver granular and easily lacerable—spleen the same—kidneys coarse—other appearances not very particular.

CASE 9. *Tetanus.*—A young man, aged 27, a tee-totaller, had, while sifting cinders and exposed to cold, abraded the skin of two fingers. A few days afterwards symptoms of trismus, and then tetanus set in, and lasted till death, in despite of every remedy, including the Cannabis Indica. The appearances on dissection, were chiefly traces of inflammation and congestion about the brain and spinal-marrow.

We must take leave of this paper, having noticed nine cases out of 39 recorded. Many of the cases might have been left out, as not sufficiently interesting, and all of them are detailed with much more minuteness than was necessary. We have greatly abridged the more important of them for the benefit of our readers.

CASES OF PELVIC INFLAMMATION, WITH ABSCESS, OCCURRING AFTER DELIVERY; WITH REMARKS. By JOHN C. W. LEVER, M.D. [Guy's Hospital Reports, April, 1844.]

THIS disease is, by no means, of infrequent occurrence, though not often treated of by systematic writers on obstetricy. Dr. Lever's paper, in a late number of the Guy's Hospital Reports, is therefore deserving of full notice. The complaint has been alluded to by HUNTER, under the name of "iliac abscess," *not* dependent on a determination of *milk* to the part—by Levret, as a "depôt laiteaux,"—by Deleurye as the same—and by Kennedy as "secondary inflammation." Dr. Doherty, Dr. Churchill, and others, have also noticed the complaint in modern times.

Abroad, Dr. Martin, of Montpellier, has published an excellent monograph on the subject, and Dr. Lever has read a considerable number of the following cases before the Physical Society of Guy's, in the course of the last Winter. We shall give a condensed view of the principal of these.

Case 1.—Ann D——, mother of six children, was attacked with puerperal fever on the third day after confinement, and treated by local depletion, aperients, &c.; but chronic inflammation remained among the pelvic viscera, for several weeks, when she came under the observation of Dr. Lever, at the hospital. She had now, bearing-down pains—weight in the pelvis—quick feeble pulse—furred tongue—restless nights—regular bowels. A distinct fulness was perceptible in the uterine region. Vaginal examination showed heat, and induration in the left side of the vagina. A mixture of salts, senna, and hyoscyamus, with Dover's powder at night. Little alteration occurred during a week, when the abdominal swelling increased, with frequent micturition, irritable bowels, nocturnal perspirations, rigours, quick small pulse, furred tongue, depression of spirits, &c. In about a fortnight, she discharged half a pint of pus into the vagina, streaked with blood, and followed by mitigation of symptoms. The discharge continued for several days. Vagina frequently syringed with warm decoct. pap.—generous diet—pint of porter—quinine. In three weeks she was well.

Case 2.—Mrs. J. on the third day after delivery of her third child, had a rigour —was found with hot skin, quick pulse—lochia small—no abdominal pain or tenderness: but with sensation of weight in the pelvis, and difficult micturition. Febrifuges prescribed. The pulse continued to range high—tongue furred—milk deficient—pelvic uneasiness increased into pain, in the region of the left ovary. Vaginal examination proved this canal to be hot, hard, inelastic. Local anodyne injections—hyd. cum creta with opium—antifebrifics—leeches thrice repeated. In three days a copious purulent discharge from vagina, which lasted ten days. A pint of porter daily, with generous diet, and bark. Phlegmasia dolens succeeded, treated by leeches, fomentations, &c. The phlegmasia afterwards attacked the other side with great violence. Convalescence was slow.

Case 3.—On the morning of the thirteenth day after delivery, was attacked with rigour, followed by considerable re-action—pain in the left iliac region—pulse 120, small—furred tongue—pain on pressure in left side of abdomen. Twelve leeches to the painful part—hot anodyne fomentations—calomel, castor-oil, antifebrifics. Melioration of symptoms; but subsequent exasperation, and recourse to antiphlogistics, with mercury till the gums were affected. In the course of a few days purulent fluctuation just above Poupart's ligament, left side. On incision, six ounces of matter were discharged, very fœtid. The discharge continued eleven days. She took quinine, porter, and the mineral acids. Her convalescence was protracted for two months, when she recovered.

In the *fourth* case, the abscess also burst externally on the right side, the abscess being preceded by the usual symptoms of suppuration. The patient refused to have the tumour opened; but it burst and discharged for a month, when she recovered.

The *fifth* case was distinguished by a double abscess, one of which burst into the vagina, the other was punctured, and the patient recovered.

The *sixth* case was a primipara, where the abscess burst into the vagina, five weeks after delivery. Recovery took place.

Nine cases are related altogether; but the above are sufficient samples of all. The following judicious remarks by the author are worthy of record here.

1. "*Seat and origin of the disease.*—It is without doubt a very difficult question to decide whether the disease in the foregoing cases commenced in the uterine appendages, strictly so called, viz. the ovaries, Fallopian tubes, and broad ligaments, or whether the cellular tissue was the structure primarily affected. In the only case I had the opportunity of examining after death, the evidences of previous mischief were found in all these structures (see Case 8): and it is hard to conceive that one can be seriously implicated without the participation of the others. That the cellular tissue of the pelvis is involved, will, I think, be readily granted, after a careful perusal of the cases. The tumefaction felt both externally and internally; the hard, tense, inelastic condition of the vagina; and the channels by which the pus evacuates itself, its effecting its exit *without* the peritoneum; prove to my mind very satisfactorily, that in such cases the tissue which intervenes between the pelvic fascia and serous membrane is involved.

2. "*Causes.*—This disease may follow an attack of acute inflammation; or it may remain as the sequent of puerperal fever (see Case 1.) In the greater number of the previous cases, anomalous symptoms displayed themselves soon after delivery. Cold, falls, blows, &c. are said to have produced the disease. In but two cases were the labours unnatural: viz. Case 3, in which the operation of version was performed, and Case 5, delivered by the forceps. In two cases the right side of the pelvis was affected; in five, the left; and in two, matter was evacuated from both sides: in one, the right preceding the left; in the other,

Case 9, the pus was evacuated from the left side externally, and from the right side through the bowel.

3. *Symptoms: General.*—The symptoms may commence a day or two after delivery, or they may supervene some days and even weeks after labour. The disease is mostly preceded by rigours, or a sensation of coldness over the surface; followed by heat of skin, quickened circulation, and pain in the region of the pelvis. The febrile paroxysms may remit, but their intervals of recurrence are at varying intervals. The uneasiness and pelvic pain continue, and, as the disease progresses, increase: usually there is some degree of stiffness in the side affected, and not unfrequently pain in the course of the vessels of the thigh and leg: this may proceed to the development of phlegmasia dolens (see Cases 2, 6, and 7.) The pulse is seldom below 100—110: the tongue remains loaded; there are frequent calls to pass the urine, which is scanty and high-coloured; at one time there is constipation of the bowels, at another diarrhœa, associated with tenesmus; and the secretion of milk is usually scant, or altogether suppressed.

"These symptoms may continue for an indefinite period; when, if the disease be overlooked, or if the remedies employed do not succeed in checking its progress, they are followed by the attendant signs of suppuration, and the matter may be evacuated either by an artificial or natural opening."

The patient generally directs to the seat of the disease, where will be visible or tangible a swelling, or a hardness, very tender to the touch, and very variable in extent. On examination, par vaginam, we shall sometimes find no indication of disease—but often "*a morbid permanence of the state of puerperal hypertrophy;*" to use the quaint and somewhat mystified expression of Dr. Simpson. "As a general rule, it will be found, that whenever pelvic inflammation occurs soon after delivery, a long period will elapse before the uterus returns to its original state. In other females, the upper part and side of the vagina will be found hard, tender, firm, and inelastic; and, by pressing upon the swelling felt through the abdominal parietes with one hand, and keeping the forefinger of the other in the canal, we are able to satisfy ourselves that the hardness and swelling felt in both situations arise from one and the same cause."

Diagnosis.—The disease may be confounded with abscess seated in the parietes of the abdomen, caused by rupture of some muscular fibres during parturition, or without any mechanical cause. "It will be well, therefore, to mark the diagnosis between simple abscess of the abdominal walls, and those collections of matter which issue from the pelvis behind, and external to the peritoneum, presenting themselves in either iliac region. In the early stage of the latter, the skin, as well as the muscular parietes, may be readily rolled over the tumour; evidently demonstrating their non-connexion: while, if the abscess be seated in the abdominal walls, by moving the one we move the other. This method of diagnosis is most satisfactorily applied when the patient is in a prone position."

Morbid enlargements of the uterus, continuing after delivery, may be confounded with the malady in question. In these cases, Dr. Lever thinks that much valuable assistance may be obtained from explorations by Professor Simpson's Uterine Bougies.

Feculent Collections.—It is not so very easy to distinguish accumulations in the caput coli and in the sigmoid flexure, from ileo-cæcal and other pelvic abscesses, since, in fact, those said accumulations too often produce inflammation, suppuration, and ulceration. Our author, however, thinks otherwise.

"The early period at which they occur after delivery; the tympanitic condition of the abdomen; the frequent expulsions of flatus, both by mouth and anus; the frequent colicky pains; the occasional vomiting; the loaded tongue; the state of the pulse; will enable us to frame a correct diagnosis. And further, upon inquiry, we shall find that for some time the patient's bowels have

been in a constipated state; while the exhibition of purgatives, and the administration of cathartic glysters, by their effects, will remove all doubt from the case."

We shall not dwell on the diagnosis between the disease in question, and sciatica and some other affections with which it has been confounded. The history and symptoms will generally lead the practitioner to a proper conclusion.

The Termination is sometimes by resolution, when the disease is early treated; but more frequently it proceeds to suppuration, pointing outwardly—into the cavity of the peritoneum—into the vagina—or into the uterus—and into the bladder or intestines.

The Sequelæ are immobility of the uterus—an impervious condition of the Fallopian tube or tubes—ovarian disease, &c.

Treatment.—The great object is resolution; but as the patients are not generally in a state to bear heroic remedies, the milder means will be preferable. Leechings will be generally preferable to venesection. They may be applied either to the seat of pain, or to the vagina, with warm fomentations or cataplasms. Mild mercurial preparations, in small doses, just to gently affect the system, will be beneficial. The kidneys and the bowels must be kept in action—and diaphoresis promoted. The suffering of the patient must often be attended to and relieved by opiates, either by the mouth, or as suppositories.

If suppuration cannot be avoided, it must be promoted, and then the constitution supported.

"1. The first object will be accelerated by the continued application of medicated poultices and fomentations, which soothe the pain, and lessen the patient's sufferings. When the symptoms plainly indicate the formation of matter, and fluctuation is evident, the abscess should be opened: this may be done externally, through the abdominal parietes; internally, through the vagina, by means of the speculum and a guarded lancet; or through the rectum, by means of a trocar, as in Dr. Simpson's case.

"M. Martin recommends the application of caustic potass to the abdominal parietes, for the double purpose of having an external opening and securing previous adhesion of the containing sac to the abdominal walls. This method of practice appears to have been very successful in his hands; but still there are cases to which its inapplicability must be obvious.

"In some of the cases related, the patient's sufferings would have been diminished had an earlier opening been made.

"2. The constitutional powers must be maintained by a generous, nutritious diet, porter, wine, &c.; the administration of tonics, and sedatives.

"Where inflammation takes place in the course of the veins and absorbents, leeching along the line of the inflamed vessels, followed by hot spirit fomentations, will be found of service; taking care, at the same time, to allay pain and irritation by sedatives, and to support the system by mild tonics.

"In some cases, where the inflammation does not proceed so far as suppuration; and in others, where pus has formed and has been evacuated; there will remain considerable induration of the affected structures. Its absorption will be promoted by the exhibition of the pot. iodid. two or three times a day, in the dec. sarzæ c., or the dec. cinchonæ, and by the application of blisters."

This paper of Dr. Lever, is equally creditable to himself as a practical physician, and to the character of the valuable publication in which it appears.

ON PARACENTESIS THORACIS. By Messrs. Dr. HUGHES, and EDWARD COCK. [Guy's Hospital Reports.]

IN the April Report of the work above cited, is an interesting memoir on the

operation in question, and on its comparative success. The paper opens with general observations on thoracic effusions requiring the operation. The authors have found the operation more easy, and much more efficacious than has been represented in writings. Dr. Bennet states that Boyer had never been successful in Paracentesis Thoracis, while Dupuytren had seen only two favourable cases out of fifty. Sir A. Cooper met with only one fortunate case. We need not go farther for unsuccessful terminations in paracentesis thoracis; and it is our pleasant duty to turn to a brighter page in the history of the operation.

Within the last four or five years, paracentesis thoracis has been performed at least from twenty to thirty times in Guy's Hospital. The operation was resorted to, merely for temporary relief; and though life was not ultimately saved, in all cases, great mitigation of suffering was obtained. The diseases for which paracentesis may be resorted to, are hydro-pericardium—sanguineous effusion into the pleura—hydrothorax—pneumo-thorax—and empyema.

Our authors are of opinion that the operation in pneumo-thorax can hardly ever be successful, but only to be employed to relieve urgent dyspnœa. The same observation, however, applies to the operation in all cases. Hydrothorax is rarely or never an idiopathic affection, but the effect of some disease—too often an organic one, and therefore beyond the reach of medicine. But the dreadful sufferings from dyspnœa are almost intolerable, and the relief from them by tapping is well worth the risk and pain of the operation.

"The indications, then, for paracentesis in empyema, or chronic pleuritic effusion, appear to be, in the first instance, the presence of a large quantity of fluid in the pleura rapidly effused; in the second, the distress of the patient dependent on the great accumulation of fluid; and, in the third, the existence of a considerable amount of effusion, together with such a state of constitution, or of the general health, or such other circumstances, as would render a prolonged purely medical treatment injurious or undesirable."

We shall here abbreviate some of the cases adduced by our authors, but first introduce a passage from Mr. Cock, respecting the operation itself.

"It now only remains for me to describe the operation itself; which, as regards the pain it inflicts, is so trifling, that by avoiding all unnecessary display and preparation, the patient may be led to consider it as little more than the sequel of the discipline to which he is occasionally subjected when it is considered essential to make a thorough examination of his chest; the same position of the body being alike adapted for the one process as for the other. It will be found most convenient to let the patient sit *across* the bed, so as to admit of his body being readily lowered and supported over its edge. The spot having been determined upon, it is advisable to make a small puncture in the skin, just at the upper edge of the rib, with a narrow-bladed lancet; through which opening the exploring needle and subsequently the trochar may be inserted. This preliminary step is not absolutely necessary; but as the skin is by far the most impenetrable and resisting of the tissues to be traversed, its previous division will render the introduction and withdrawal of the canula more easy, less forcible, and attended with a minor degree of pain and alarm to the patient. The exploring needle having been first introduced and the presence of fluid ascertained, the trochar and canula may then be carried into the chest through the same track, giving the instrument a slight obliquity upwards, which will enable it to clear the edge of the rib. The depth to which the trochar must be passed will of course depend much on the thickness of the parietes, the presence of fat, muscle, or œdema, for which due allowance should be made; and, in most instances, the penetration of the pleura will be appreciated by the sensation conveyed to the fingers of the operator, especially if the integument has been previously incised so as to diminish materially the friction.

"The remainder of the operation consists of getting rid of as much fluid as the strength and condition of the patient will bear, and carefully avoiding the admis-

sion of air into the cavity. On withdrawing the trochar, the fluid will at first be found to flow in a steady and equable stream, slightly augmented in force at each expiration. After the lapse of a shorter or longer period, the flow will become checked at each inspiration, and then the body of the patient should be gently lowered into a horizontal posture, and turned slightly on to the affected side, so as to bring the cavity directly over the opening; and in this position he should be duly supported by assistants. The fluid will now recommence flowing in an uninterrupted stream; and when it again begins to flag, a still further quantity may be obtained, if the state of the patient permit it, by directing an assistant to make steady and continuous pressure on the lower part of the chest, by grasping it on either side with the hand."

During the process of evacuation, great attention should be directed to the stream of fluid, which should never be allowed to be completely interrupted during inspiration—the admission of air being immediately indicated by a sucking noise, which cannot be mistaken, and which is the signal for a prompt withdrawal of the canula.

Case 1.—J. P. aged 22, admitted (July 27, 1843) under Dr. Addison, having been subjected to cold while taking mercury for venereal complaints. Ten weeks ago, attacked with pain and tension in the epigastrium—eructations—tenderness on pressure, &c.—succeeded by short and oppressed respiration, hard cough, and mucous expectoration, which continued till admission, when the nose, lips, ears, and fingers were blue or rather livid, with dyspnœa—sense of abdominal fulness, and difficulty of lying on the right side or back. Tongue clean, appetite good, skin dry, bowels regular, evacuations bilious, urine natural, pulse 100, irregular, small, and feeble. Left side of chest more rounded and full than right side, little raised on inspiration, and tender on pressure in the intercostal spaces. It was universally dull on percussion—absence of vibration on speaking. The integuments were œdematous. The respiration was nul on the inferior portion of that side—became tubular as the stethoscope was passed upwards, and puerile, with sonorous sibilant rhonchi above the spine of the scapula. Below the scapula the voice was bronchophonic—and over that bone, egophonic. Nothing remarkable on the right side. The impulse of the heart could not be felt to the left of the sternum, and its sounds were most distinctly heard over the centre of the right side of that bone. Fluctuation in the abdomen—loins and legs œdematous—liver felt below the ribs. To be cupped, and take calomel, opium, and antimony. In four days the gums were affected, and no relief being obtained, fifty ounces of clear straw-coloured fluid were drawn off by the trochar. On cooling, it presented a large loose transparent coagulum, floating in some clear serum. After this he had copious expectoration, sometimes bloody, sometimes muco-purulent, with various alterations, for better or worse. Mercury, diuretics, salines and other medicines produced little effect. In consequence of great dyspnœa and distress, the chest was tapped thrice, and on each occasion produced great relief. Afterwards ascites took place, for which he has been several times tapped. On the 6th March, 1844, nearly nine months after coming under treatment, he is able to walk about the ward—can lie, and occasionally sleeps, on the right side; but still the effusions continue, the enlarged liver is felt, and there can be little or no hope of final recovery. There can be no doubt, however, that, had it not been for the operation, he would have died long ago.

Case 2.—W. C. a coachman, aged 27 years, had been in Hospital for secondary venereal eruptions. On the 1st Dec. 1842, Dr. Hughes was called to him, in consequence of dyspnœa, without cough or fever—tongue clean, skin natural, pulse feeble. The heart could not be felt in the usual position—its impulse felt on the *right* side of sternum.

"The entire left side, both before and behind, *i. e.* as high as the clavicle an-

teriorly and the spine of the scapula posteriorly, was quite dull on percussion. No respiration could he heard at any part of this side, except immediately below the clavicle before, and in the interscapular region behind, where it possessed a pure tubular character. The voice was more shrill than natural in the left interscapular region, but was indistinct below the clavicle, and scarcely at all audible in any other part of the side. Mr. Cock, at my request, performed the operation of paracentesis; and, having first used the explorator to certify the presence of fluid, introduced a small trochar at the posterior and inferior part of the left side of the chest. About six ounces of clear greenish-yellow serum were drawn off, with slight relief to the patient. Ordered,

Pil. Hydrarg. gr. iv. Opii. gr. ss. m. ft. Pil. nocte maneque sum.

Liq. Potassæ m. xv. Potassii Iodidi gr. iij. Inf. Gentian. C. ℥iss. m. ft. haustus ter die sumend.

"*Dec.* 2.—This day his pulse were considerably fuller and stronger, and there existed some heat of skin, with a flushed face. In other respects he was the same. Ordered,

Ven. Sect. ad ℥viij.—Empl. Lyttæ lateri sinistro.—Pergat.

"*Jan.* 6.—The febrile symptoms were immediately and permanently subdued by the venesection; but his dyspnœa and other symptoms continued nearly as before, and the physical signs of his complaint were unchanged. He had hitherto continued the medicines first prescribed: the blister had risen and discharged freely. He was certainly not better, though not considered materially worse; but late in the evening of this day, Mr. Cock and I were called to him, in consequence of excessive dyspnœa threatening suffocation, arising from the increased accumulation of the effused fluid. Upon our arrival he was gasping for breath, propped up in bed by pillows, with much anxiety of expression, a clammy state of the surface and feeble pulse. The chest was again tapped at the same part as before; and, by the assistance of pressure upon the ribs, thirteen ounces of the same kind of fluid as before were evacuated. In a few minutes he felt no inconvenience whatever from the operation, and in a very short time expressed himself as being much relieved thereby. From this time his recovery commenced."

The blister and other remedies were continued, the dulness gradually decreasing and breathing easier. The respiratory murmur is gradually returning to all parts of the lungs—mouth tender from mercury. From this time he continued free from the thoracic symptoms, though he was twice obliged to return to the hospital for venereal eruptions. This is decidedly an excellent case. The recovery seems to be complete.

Case 3.—E. M. an Irish sailor, aged 58, who had been at the battle of Algiers, admitted 7th April, 1842, for fractured ribs. He had been run over by a cart. In a fortnight he was made an out-patient; but a day or two afterwards, was seized with great oppression of breathing, anxiety of countenance, sense of suffocation, &c. On removing the bandage, the left side was unnaturally resonant on percussion. The respiratory murmur deficient in the left side—nothing remarkable in right side. Venesection to six or eight ounces—calomel, opium, and antimony. It was considered that pneumo-thorax had taken place in the left side, from laceration of the lung. To be bled to eight ounces—opium to be given every six hours, with mild nourishment. He improved progressively, and in a few weeks, was able to walk about. After this, he again complained of pain in the right side, where there was dulness, and want of costal elevation. Pleuritic effusion was suspected. Blue pill and opium at night—a cathartic in the morning—and iodine in the day. He got worse—muco-purulent, and ultimately purulent expectoration took place, and it became evident that fluid was accumulated in the right side. The explorator was introduced, but no fluid came forth. He lingered for nearly three months, and then sank.

Dissection.—The instrument was found to have neither penetrated the lung,

nor to have entered any collection of fluid. It had entered the diaphragm. There were extensive pleural adhesions. Both lungs appeared sound *in situ;* but on taking off the coats of adhesive matter, the finger passed into a narrow and defined cavity in the right pleura, containing three or four pints of serо-purulent fluid. It contained no air. The cavity was lined with a dense layer of coagulable lymph. The lung itself was firm from compression, and a part was solid. There was a communication found between the extremity of a bronchial tube and the defined cavity in the serous membrane above alluded to. There was a small cavity capable of containing a pullet's egg in the apex of the *left* lung, filled with a dark-coloured fluid.

"Whether I was correct in the opinion I expressed as to the presence of pneumo-thorax upon the left side in this case, and the air was subsequently absorbed, must remain undetermined. The existence of a cavity close to the surface of the lung renders it not improbable that such had really been the case, particularly when taken in connection with the sudden supervention of symptoms which usually accompany that accident. Whether the patient would have been permanently benefited by the evacuation of the fluid effused on the right side must also continue uncertain; though the very little disease existing in other parts induces me to think that such a result might have followed a more successful operation." 87.

Case 4.—A girl, aged nine years, was brought to the hospital as an out-patient, (Sept. 7, 1843,) but was admitted under Dr. Hughes. Five weeks previously was attacked with inflammation of the bowels. A fortnight before admission was seized with severe pain in the left side, catching her breath—also pains in the head and limbs. She had cough and large expectoration, bowels open. On examination, the respiration was much hurried—dyspnœa—pulse 140.

"*Physical Signs.*—Enlargement and fulness of the left side were obvious upon inspection. The intercostal spaces were level with the ribs, which were but slightly elevated during inspiration, and were thereby forcibly contrasted with those of the opposite side. The circumference of the chest measured twenty-three and a half inches; and by passing a tape below the nipple, from the spinous processes to the centre of the sternum, the admeasurement of the right side was found to be eleven inches, while that of the left reached twelve inches and one-third. There existed general dulness of the left side on percussion, together with absence, or great distance of respiration, and of the voice, though these could be but imperfectly investigated from the continual restlessness of the little patient. The heart could not be felt, though it was indistinctly heard below the left nipple; it was both heard and felt on the right of the sternum. The dulness on percussion existed up to, and indeed was most marked in its character below, the left clavicle, in which situation tubular breathing and imperfect pectoriloquism could be distinguished. The right side presented nothing remarkable, excepting the position of the heart."

Next day Mr. Cock introduced the explorator in the left side. A few drops of pus escaped, while some purulent expectoration appeared from the mouth. On the introduction of a small trochar a jet of serum escaped—first limpid and then tinged with blood. The canula was withdrawn. From this time she gradually, but entirely recovered.

The author candidly states that he doubts whether the operation, in this case, did any good. It is quite evident that it did no harm. It also showed that the operation is not necessarily a dangerous one.

Case 5.—This was one of partial recovery from hydrothorax, ascites, diarrhœa, phthisis. Paracentesis twice performed. The patient was a female, aged 23, and liable, from childhood, to cough. She was the mother of four children.

About eleven weeks before admission, the abdomen began to enlarge, and the cough was more troublesome. She could only lie in the semi-erect position—urine scanty and high-coloured—great dyspnœa—pale face—tongue clean—emaciation—diarrhœa—abdominal fluctuation—no tumour of liver or spleen—pulse 140, feeble.

"The entire chest moved imperfectly upon inspiration. Marked dulness existed anteriorly upon the right side as high as the mamma, and posteriorly upon the left side up to the angle of the scapula. Absence or distance of the respiration, and decrease of the normal resonance of the voice, were obvious in the latter situation. Below the clavicles, but especially below the right, the respiration was hoarse, and mixed with mucous rattles. The impulse of the heart was felt nearer to the sternum than is usual; but the rhythm of the organ was normal, and the sounds were scarcely otherwise. As the diarrhœa required immediate attention in her weakened state, she was ordered,

Pulv. Kino C. gr. x. omni nocte sumend.; et Pulv. Cretæ C. c̄ Opio gr. x. ex. Mist. Mucilag. ter die; with Arrow-root and Beef-tea for diet.

She continued without much alteration till the 28th; when the diarrhœa having been checked, though the tongue was still red and scabrous, the urine in very small quantity, the dyspnœa increasing, and decubitus equally or more difficult, she was ordered,

Potassi Iodidi gr. ij. Liq. Potass. m. xv. Inf. Gentian. C. ℥ iss. ter die.—Rept. Pulv.

"*Oct.* 29. The dyspnœa and orthopnœa having increased rather than diminished, and dulness on percussion, together with absence of the respiration and the voice, nearly perfect immobility and slight enlargement of the left side, and partial displacement of the heart having been distinctly ascertained to exist, Mr. Cock, at my request, introduced, first the explorator, and then a small trochar, between the eighth and ninth ribs posteriorly, and drew off seven ounces of clear, yellowish serum. The patient felt almost immediately relieved. On the next night she was able to lie much lower in bed. The left side was found less extensively dull on percussion, and the heart less displaced towards the right side. Pleuritic rubbing was now distinctly heard below the left clavicle; the cough was still troublesome; the expectoration scanty and mucous; but the urine was considerably increased in quantity. Pulse still 140."

The dyspnœa having again increased, the trochar was introduced, and fifteen ounces of slightly sanguineous serum were drawn off, with great relief. In the course of a fortnight she was so far recovered, as to leave the hospital and return to her friends. "She was able to lie down in bed, and to turn upon either side—her appetite was good—improved in strength and flesh—pulse still 128." Dr. Hughes saw her a fortnight after she left the hospital, and she continued much in the same state.

Although this cannot, of course, be pronounced positively as a case of recovery; yet it is not very far from it, and is well worthy of record. We can only make room for one more case.

Case 6.—H. S., aged 19 years, had been exposed to cold, in wine-vaults, and experienced an attack of pleurisy two years previously. Admitted Dec. 2, 1840, with cough and expectoration. He is emaciated—nocturnal perspirations—dyspnœa—œdema of the ankles—entire right side dull on percussion—the left resonant, with puerile respiration. Can only lie on right side. In the night of the 15th December he was suddenly seized with violent cough, which continued nearly half an hour, with great sense of suffocation. The expectoration was bloody. Dr. Babington believing that the pleura contained fluid, Mr. Cock introduced the explorator, and afterwards the trochar, when two pints of purulent fluid were drawn off. This was followed by another violent fit of coughing, by which his life was endangered. For some weeks he daily expectorated nearly

a pint of matter, apparently containing shreds of hydatids. In about two months he began to cough less, and to gain flesh. He shortly afterwards left the hospital in tolerable health, and was seen more than a year after dismissal, perfectly well.

We have thus given our readers a full abstract of six out of ten cases recorded in the work before us; and we can hardly believe that they will differ from us in the opinion, that the said paper is worthy of the authors, and of the valuable work in which it appears.

OBSERVATIONS ON LITHOTOMY.—[Guy's Hospital Reports, April, 1844.]

IN the first volume of the Reports, Mr. Cooper communicated some observations, of a valuable practical character, on Lithotomy, which we noticed at the time. In the present number, we find a continuation of the paper.

Ten cases are first related, the nature of which may be gathered from their heads:—

CASE I. *Calculus Vesicæ—Operation—Urine passed through natural passage on third day—Rapid Recovery.*

CASE II. *Calculus Vesicæ—Symptoms excessive, but relieved by Medicine—Operation—Recovery.*

CASE III. *Calculus Vesicæ—Operation—quite well in three weeks.*

CASE IV. *Calculus Vesicæ—Operation—Recovery.*

CASE V. *Calculus Vesicæ—Small Stone—Water passed by Natural Passage six days after Operation, and Patient quite well at the end of three weeks.*

CASE VI. *Lithotomy after Lithotrity.*

CASE VII. *Calculus Vesicæ—Strumous Constitution—Small Stone—Water passed by Natural Passage eight days after the Operation.*

CASE VIII. *Calculus Vesicæ—Operation—Large Stone—Recovery.*

CASE IX. *Calculus Vesicæ—Lithotomy after Lithotrity.*

CASE X. *Urinary Calculus—Sequelæ of Typhus Fever—Operation—Recovery.*

We don't see that it is necessary to narrate cases whose titles speak so intelligibly for them. Amongst other observations of Mr. Cooper's we find the following:—

"As regards the patients best adapted for the operation of lithotomy, little doubt can be entertained but that its success is much greater in children than in those who have arrived at the period of puberty; and that persons from the age of twenty-four to forty-five bear the operation worse than at any other period of life. The favourable result of the operation in children has been attributed to the smaller size of the vessels of the perinæum, and of those of the organs of generation. I think, however, this opinion is derived more from reasoning than from observation; as in those who die after the operation of lithotomy, a great majority, hereafter to be shown, will be found to have died from peritonitis, connected with some diseased state of the viscera, and chiefly of the kidneys. And, again, during the middle period of life the whole arterial system is in full vigour; and a want of balance in any of the vital functions will suffice for the development of inflammation.

"Little need be said as to the after-treatment, beyond what has already been considered; as nothing more requires to be done than paying attention to the secretions, the natural performance of which may be considered as constituting a healthy action: and perhaps there is more danger in interference during Nature's process of reparation after surgical operation, than there is in leaving them wholly to their own constitutional powers."

It appears that Mr. Cooper has operated eighty-four times at Guy's Hospital, and upwards of twenty in private; and that he has lost ten patients—a good share of success.

After the preceding cases, Mr. Cooper relates seventeen others, of a more complicated kind. He observes very justly that:—

"It must appear evident to every one, that the practice of one surgeon, however extensive his opportunity may be, will not suffice to form a complete list of the various difficulties and complications in the operation and after-treatment of stone cases; and it therefore behooves every one who has had experience in this branch of his profession candidly and boldly to state the various circumstances which have occurred to him as impediments in the operation, or led to an unfavourable result. It is not sufficient that fortunate cases only should be published, without reference to unsuccessful results; as otherwise the inexperienced may be induced to believe that lithotomy is an extremely easy operation; and if in their own practice, under such delusion, any thing untoward should occur, they will be by far less capable of combating the difficulties, than if they had been made acquainted with the obstacles which they are to expect as liabilities in the operation. When we consider the great difference in the ages and constitutions of persons operated on for the stone, the variety of calculi both as to composition and size, and the variations in depth and condition of the parts cut through, it cannot be supposed that an accurate opinion can be given from *à priori* reasoning. In the operation of lithotomy, the surgeon should bear in mind that he must be, however cautious, more or less in the dark as to the difficulties which may present themselves; and it is only by meeting them with calmness and deliberation that the operator can ever hope to encounter them successfully.

Case 11, the first of this second batch, was that of a boy three years of age. A short pair of forceps was introduced, but the stone was found to lay a considerable way back, and on attempting to open them, it was found impracticable; they were withdrawn, and re-introduced, but with the same result. A longer pair of forceps were then used, and the stone removed. The child recovered without any unfavourable symptom. Mr. Cooper observes upon the case:—"Those I employed at first were the usual ones intended for children; but I have so frequently found them of an inefficient length, particularly in the instance of a capacious bladder, that I am in the habit of using larger forceps than are generally recommended; and have found considerable facility both in seizing and handling the stone, from the greater length of these instruments."

Case 12. A boy, aged 4½ years. The stone was supposed to be large—the urethra was small, and the staff necessarily so. It was remarked that the first incision was large; but yet, from the depth of the perinæum, and the smallness of the groove in the staff, there was some difficulty in introducing the point of the knife; which, on being effected, was smoothly and readily passed into the bladder. Mr. Cooper then introduced the fore-finger of the left hand into the bladder; and finding that the prostate grasped his finger, was satisfied that the opening was not sufficient for the size of the stone; he therefore considered it prudent to enlarge the internal incision; when the forceps were introduced, and a rough stone, about the size of a walnut, was immediately removed, without any difficulty. It was observed that not a drop of urine followed the introduction either of the knife or of the forceps. The boy got quite well rapidly.

Mr. Cooper considers, and probably with reason, the making the incision in the prostate too small a fault on the right side. He remarks:—"Many surgeons, I believe, are of opinion that less injury is likely to occur from an incised wound, even if it be a little too large, than from a lacerated one, occasioned by drawing the stone through the resisting prostate. But on this point I feel perfectly assured, that the incision through the prostate, made by the knife, should

be no larger than just to admit the forceps; and that the finger of the operator, and the opening of the blades of the forceps, will be found the safest, and therefore fittest means of sufficiently enlarging the aperture for the extraction of the stone. If the knife be used for this purpose, there is great danger of the pelvic fascia being cut; and the ill effects resulting have already been dwelt on, as one of the most frequent causes of the failure of the operation." We should conceive that, at this time of day, there cannot be a second opinion upon this point.

Case 13, that of a boy between five and six years of age. The calculus was brittle and broke. The remaining fragments were afterwards removed with a more appropriate pair of forceps, and likewise by means of a scoop. The bladder was then injected twice; and a good deal of fetid gravelly matter escaped with the water. We quite agree with Mr. Cooper, that the necessity for the frequent introduction of instruments into the bladder, under these circumstances, demands the greatest gentleness in their manipulation.

Case 14, was one of calculus impacted in the urethra, behind the scrotum. It was cut down on, and removed with success.

Case 15, that of a boy aged ten. The urine was albuminous—the stone was about the size of a pigeon's egg. He recovered slowly but perfectly. Mr. C. remarks that, "the urine may present the appearance of an albuminous deposit, by the application of heat only, from its alkaline condition, and without any disease of the kidneys; or it may present a similar appearance when nitric acid is applied, from the presence of lithic; and in every case, therefore, it is necessary to employ both heat and acid as tests of the state of the secretion."

In the sixteenth case, there was slight hæmorrhage.

Case 17, that of a boy aged $5\frac{1}{2}$. The stone was small—more hæmorrhage than usual at the time of operation, but it ceased on his being put to bed; it recurred, however, about a quarter of an hour after, and apparently proceeded from the artery of the bulb; there was considerable difficulty in stopping it, owing to the extreme irritability of the child, who was constantly crying for two hours subsequent to the operation. A piece of sponge was placed in the wound, and pressure was made, and kept up, by the finger of the dresser. Syr. papav. 3j. was given him; and he was ordered to be kept quite quiet. About two hours after, the dresser having left him, the sponge was forced out by the cries of the child. The countenance was now blanched, with dark areolæ round the eyes; the pulse was hæmorrhagic; and the feet cold. The sponge was replaced, the pressure again applied, and strict orders were given that he should be closely watched: warm flannels were applied to the feet, and another dose of syr. papav. was given him. On the 27th and 29th, hæmorrhage recurred to such an extent as almost to destroy the patient; but was however again restrained by pressure. From this period, by the administration of tonics and generous diet, he rapidly improved in health, and left the hospital on the 6th of December quite well.

Case 18, that of a man aged 25. Operation on the 21st June, 1842, when a large deep arterial branch was divided, and bled rather freely. Free hæmorrhage followed the operation. Constant pressure on the ramus of the left ischium was made, by means of a piece of sponge, and the introduction of the fore-finger into the wound. This was continued for about three quarters of an hour: lint, dipped in cold water, was then applied, and pressure made with a cork.

On the 25th, whilst straining to pass his urine, hæmorrhage again commenced; but was quickly stopped by the introduction of a sponge-plug into the wound, and placing a bottle of cold water between the thighs. He was dismissed cured on the 3d of August.

"These cases require all the care which an attentive assistant can bestow;

as, in many instances, the loss of a small quantity of blood may turn the scale; and unless a person be at hand to apply his remedies immediately, a life, which might otherwise have been saved, is lost. The keeping the patient cool, by free ventilation of the room, the administration of cold drinks, the application of ice to the perinæum, and pressure upon the bleeding vessels, are the principal means indicated.

"I consider, however, the danger of bleeding may be much diminished by the mode of operating followed by the surgeon; and that if the urethra be not laid open in the bulb, there is but little fear of any important loss of blood: while, on the contrary, if the groove of the staff be cut down upon, anterior to the deep fascia of the perinæum, the artery of the bulb must inevitably be wounded. The operation is doubtless rendered more difficult by this deep cut into the urethra, but the safety of the step is a sufficient compensation for its adoption."

Case 19. A man, aged 27, had had symptoms of stone for twenty years. After the first incision, considerable hæmorrhage took place, owing to the large size of the superficial vessels: some difficulty was experienced in seizing the stone, from its large size and form. After the operation, which occupied about two minutes, hæmorrhage, to the amount of two or three ounces, occurred; which was checked by making pressure upon the perinæum with ice in a bladder. He complained of being faint, and felt inclined to vomit: pulse 82, feeble. Pressure was afterwards removed, but the ice continued to be applied.

Hæmorrhage recurred on the 28th and 30th, and August 1st and 2d, without any apparent cause, to such an extent, as considerably to lessen the hopes of recovery; but, by applying ice to the perinæum, and the introduction of a plug into the wound, it was completely stopped; and he eventually quitted the hospital perfectly well.

The calculus was of the mulberry kind.

Case 20. A shoemaker, aged 40, had had stricture five years previously, and laboured under incontinence of urine. Ten days before admission, tumefaction and redness were observed at the umbilicus: to which he applied some shoemaker's wax: about ten or twelve hours after its application, about a pint and a half of urine passed off, in a full stream, from a small orifice in the umbilicus, now for the first time observed; and the flow through the urethra then stopped. At the time of admission into the hospital, on the 8th day of January, 1830, his symptoms were, an alternate flow of urine from the orifice of the umbilicus and urethra; scanty in quantity from the latter, very turbid, and of a reddish colour, apparently from an admixture of blood: pain, on pressure, over the right lumbar region; and, moreover, on pressing the right iliac region, an irresistible desire to micturate was induced. His general health good: cutaneous perspiration scanty. The catheter has been daily introduced, and small quantities of urine been drawn off.

Pressure over the umbilicus failed to arrest the discharge through it. A metallic elastic catheter was directed to be worn continually in the urethra. This had a great effect on the umbilical fistula. In July, however, the instrument broke, leaving about three inches in the bladder. Extraction with the urethral forceps was attempted in vain. On the 3d August, Mr. Cooper performed an operation for its removal, which was in every respect similar to the lateral operation of lithotomy. The second incision opened the membranous portion of the urethra, and divided a part of the left lobe of the prostate gland: several attempts were now made to seize the portion of catheter, by means of the urethral forceps, but ineffectually. The prostate gland was then completely divided, and the bladder opened; and after a few efforts, the broken portion of catheter, about three inches in length, was extracted with the lithotomy forceps.

The patient recovered.

Spirit of the British and American Periodicals.

PATHOLOGY.

Observations on a Peculiar Nervous Affection Incident to Travellers in Sicily and Southern Italy. By J. Hungerford Sealy, Esq. M. D. A. B. late resident Physician at Florence, Messina, &c. (Condensed from the Dublin Journal of Medical Science, May, 1844.)

The author had frequent opportunities of witnessing the disease he is here about to depict.

It is characterized by an excessive irritability, attended with extraordinary mental and muscular activity, and seldom attacks the new comer, but more frequently those who have been resident between two and three years, and just beginning to suffer from *nostalgia*. There exists in it an inexpressible consciousness of disease, the mind is disturbed by visions, the imagination is morbidly awakened, yet the judgment still possesses its control over the mind, with scarce a capability of obeying its dictates.

Dr. Sealy is satisfied that it is a disease of climate. The modifications of it are great, and its grades various, from slight excitability to serious and formidable disease, affecting mind and body. According to the Doctor, 'it seems a hyperelimination of the nervous principle, a peculiar elastic evaporation, of a spiritual consciousness and capability, aroused by electrical agency or invisible atmospheric influence." The imagination and sanguineo-nervous temperaments are particularly liable to it, and suffer much during the prevalence of the Sirocco-wind, especially at Rome and Palermo, and at Naples and Sicily, when the atmosphere is charged with electricity. That all should feel excitement in that elastic atmosphere is not to be wondered at—it is when such excitement becomes excessive and permanent that it requires control. The extraordinary rarity of the atmosphere contributes much to this, the force with which impressions are conveyed to the senses. In Sicily the air is so attenuated and transparent that distance seems almost annihilated and sounds come on the air with appalling force. Some parts of Italy are found to possess this exciting influence more than others.

Whilst residing at Florence, several cases of this nervous affection presented themselves to Dr. S., affording curious, and some of them most amusing traits. The severest case of it ever witnessed by him was in Messina in Sicily. On his arrival at Messina, from Naples, he was waited on by a gentleman stating that their resident clergyman was dangerously ill and requested his immediate attendance; he stated that the town was in a ferment about him, the Church of England service having been suspended for some weeks. Dr. S. immediately waited on his patient—he found him in bed—countenance haggard—eyes glaring out of his head and deeply suffused and bilious; skin dry and parched, and almost verging on the icteroid tint—tongue dry and red at edges, and covered with a brown fur in centre and back portion—pulse small and quick,—his general expression denoted the deepest misery, though his mind was perfectly clear—he had been ill three weeks. He had been under the care of a Sicilian physician, and had taken very little medicine, none of a purgative kind, though he felt he wanted it, as his bowels had not been moved for some days. The Sicilian doctor declared his complaint to be March fever, and was treating him accordingly with quinine—the only other medicine he had taken was an infusion of taraxacum, the Sicilian panacea for all diseases. Dr. S. advised blue pill in a smart dose, combined with compound colocynth pill to excite the biliary secretion—to this

were added leeches to the head—mustard sinapisms to the feet—the pills to be followed up by a bitter saline mixture to full purging. After 12 hours there was a perceptible improvement—the patient had been well purged—his mind became more tranquil, and his nervous system much quieted. During the progress of his disease, his mental hallucinations were extraordinary, almost amounting to what the French Mesmerisers denominate *clairvoyance*, and his visions were frightful—his pervading wish was to tear everything near him, to shout, to sing and *curse*—he fancied he saw his limbs leave his body—he was convinced of the unreality of the vision, and of its being the result of a diseased imagination—yet so palpable was the delusive vision that he could scarcely correct the delusion by the utmost effort of his reason.

The bodily disease, separated from the mental hallucination, evidently had its origin in the biliary and chylopoietic viscera—this was indicated by all the symptoms as well as by the alvine discharges. This was the disease in its severest type. The minor modifications of the disease, met elsewhere, were not attended with such severe constitutional symptoms; and in many cases, where severe and distressing mental hallucinations existed, were unaccompanied by morbid appearances. Dr. Sealy states that he could almost always trace the disease to some engorgement of the *chylopoietic viscera*—he considered the disease as a modification of hypochondriasis, the nervous system being over-exerted by atmospheric influence, while the biliary and digestive systems were deranged at the same time.

The most successful treatment, according to the Doctor, is a modification of mercurial and vegetable purgatives, with a modified anodyne and stimulating plan of treatment.

CASE OF DEATH FOLLOWING THE EXCESSIVE USE OF ARDENT SPIRITS; IN WHICH APPEARANCES SIMULATING IRRITANT POISONING WERE FOUND ON DISSECTION. By JOHN INGLIS NICOL, M.D. Inverness. (From the London and Edinburgh Monthly Journal, June, 1844.)

J. F. a young man about 26 years of age, had indulged in drinking a considerable quantity of whiskey in company with some friends. On his return home, two of his companions accompanied him, as he seemed much intoxicated. They had walked but a short way up an acclivity, when he fell, uttered a few words, and immediately became quite insensible. His companions, supposing him merely to be very drunk, carried him home, and after very considerable difficulty they succeeded in placing him in his bed. They could not say whether he was drunk at the time; they only thought him to be drunk. He was found dead next morning.

Seven hours after he had been discovered in this state, a post mortem was instituted—a few scratches on left cheek—back and depending parts of the body very livid; and under the angles of the jaws and along the sides of the neck, the colour amounted to a deep purple.

Thoracic viscera healthy. In the abdomen the distention of the larger gastric and gastro-epiploic veins attracted immediate notice—liver congested. On opening stomach, there was an evident odour of ardent spirits. The œsophagus, stomach, and a large portion of the intestines being opened to view, the whole of the mucous membrane, from about half-way up the œsophagus, along the whole extent of the stomach and for about 18 inches along the intestines, was found highly injected. The vascularity of the corrugated part of stomach was of a deep crimson colour—œsophagus and intestines presented a like appearance. Whilst the head was being examined, a large quantity of liquid blood flowed from the divided vessels; apopletic congestion of the vessels of the investing

membranes was very evident. The opinion given was that death was caused by apoplexy. After a careful examination, not a trace of irritant or corrosive poison could be detected. Dr. Yellowly has given a paper published in the fourth volume of the Transactions of the *London Medical and Chirurgical Society*, from which it would appear that such cases as the present are of more frequent occurrence than is generally supposed.

SOLITARY CONFINEMENT.

THE effects of this system of prison discipline on mental and corporeal health, can only be determined by time and careful statistical records. The fifteenth Report of the Pennsylvania State Penitentiary lies before us, and is a very important document. In that establishment the silent and solitary system is carried out with great punctuality, and is under the care of an experienced physician, Dr. Hartshorne. It appears that the whole number of prisoners, during the preceding year (from March, 1843, to March, 1844,) was 487, of whom 325 were whites, and 162 coloured. The mortality was 11—5 white and 6 coloured. The per centage of mortality was therefore 1.53 as to the whites, and 3.66 as to the coloured. This shows a remarkable difference. During that year, 60 white prisoners and 23 coloured, were admitted in good health—and 53 white and 20 coloured, in imperfect health.

These facts proclaim no unusual mortality among the prisoners; and when we consider the habits of such persons, prior to imprisonment, the proportion of deaths is remarkably small—it is as nearly as possible the same as that of the citizens generally. The hygienic means employed are merely cleanliness of person and cell—free ventilation—good bedding—regular exercise in the cell yards—moderate diet—comfortable temperature—good clothing, and constant occupation. Flannels next the skin have been found very beneficial in preventing rheumatisms, neuralgiæ, and coughs. Acute diseases have been few and of short duration. The chronic diseases have been chiefly those of the digestive organs, rheumatism, and venereal affections—occasionally scrofula and phthisis. The latter diseases rare among the whites. Dr. Hartshorne declares that he has not been able to discover any disease peculiar to the Penitentiary. The amount of tubercular disease, says he, has been much less than is generally imagined. In respect to the effects of this system on the mental functions, the physician avers that, from what he has seen, he has no reason to believe that it has any tendency to produce mental derangement in a person not constitutionally predisposed to that complaint.

"Instead of stultifying the intellect, as some imagine, I am fully satisfied that separate imprisonment is more apt to produce the opposite effect. The perceptions are evidently rendered more acute by continued exertion under the difficulties of restraint. The reflective powers also are increased by their unwonted activity under the exigencies of a seclusion, uninterrupted except by intercourse with intelligent and considerate men.

"The acuteness of perception among criminals is proverbial in all prisons; and the experience of this one long since proved that these faculties are by no means blunted there. Nor are the statements in regard to the subdued temper, and improved habits of reflection among separate convicts, mere idle assertions; as all those who have watched the mental developments in this place must be prepared to admit."

It can hardly be doubted that the silent and solitary system of prison discipline is that which most effectually corrects evil habits; and if, as these documents seem to prove, it is not injurious to health and life, the popular clamour against it goes for nothing.

TWO CASES OF SCIRRHUS OF THE PANCREAS, WITH OBSERVATIONS ON THE DIAGNOSIS OF AFFECTIONS OF THAT GLAND. By F. BATTERSBY, F.R.C.S.I., &c. &c. (Condensed from the Dublin Medical Journal, May, 1844.)

DR. Battersby was requested to visit Mrs. M., aged between 55 and 60, in Sept. 1843. She had enjoyed good health until two years previously, when she became subject to severe pains in the back, shoulders, and arms; these were supposed rheumatic. After a year there was discovered in the epigastric region a deep-seated pulsating tumour, size and shape of an orange, having a regular diastolic enlargement synchronous with the pulse, and a well-marked bruit de soufflet. The diagnosis then formed was *aneurism of the aorta*. She also suffered from fluid eructations, and an obscure deep-seated pain. After a month, the tumour and pulsation disappeared—a new set of symptoms set in—scil. uneasiness over abdomen—stools passed with pain and forcing—great emaciation—complexion dingy and leaden—conjunctiva jaundiced—pain in abdomen, which was now prominent and tympanitic, particularly in the region of the cæcum—marked fulness in epigastric region, in which was felt a deep-seated, solid, and fixed induration. It had no pulsation, but a bruit de soufflet over it in the course of the aorta. Constipation aggravated her suffering, and bowels seldom moved without lavements and aperients—passage of stools very distressing and painful—stools consisted of watery, ropy mucus, deficient in bile. When solid, the fæces were not thicker than a small-sized finger. The body always bent forwards—no vomiting at any period—occasional eructations of a clear, watery fluid in small quantity, which was bitter—mouth always full of saliva—tongue pale and clean—no thirst—pulse 70, intermitting and variable—legs and thighs anasarcous.—Died Oct. 2d. Opiates and mild medicines were the only ones used. The ptyalism and eructations continued to the last. She always referred to the epigastrium as the source of all her suffering. The principal post mortem appearances were, anasarca and ascites—large intestine very much contracted—great induration and thickening of the membranous structures within the abdomen: stomach very small, and its mucous membrane dark-coloured—its cardiac orifice much contracted by thickening and hardening of the cellular tissue around it—it was connected with the left extremity of the pancreas, which was universally hard and enlarged, and had lost every trace of its natural structure—near its centre was a thin, horny cyst, the size of a walnut; it lay over the aorta—its base was surrounded by a scirrhous formation. The inferior transverse portion of the duodenum adhered closely to the morbid pancreas, and was by it much contracted.

Here the pancreas was obviously the origin of a scirrhous affection, which, by extending to other parts, produced contraction of colon and of cardiac orifice of the stomach. Of all the usual symptoms of scirrhous pancreas, the only permanent ones present here were the epigastric induration and the emaciation—the others, scil. vomiting, jaundice, and epigastric pain, were either absent or obscured by more urgent symptoms, arising from contraction of the large intestines. Andral mistook a case for aneurism of the aorta in a woman 54 years old, who complained of violent pains in the dorsal region, radiating to the left side of thorax; these pains affected the entire abdomen, and were lost in the region of the spleen. At the post-mortem, an enormous tumour was found in the position of the pancreas. Jaundice and vomiting are frequent attendants on scirrhous pancreas—they arise, the first, from obstruction or obliteration of the common or biliary ducts by pressure of the morbid growth, then seated in the head of the gland, which in the same way is often found to narrow very much the pylorus or duodenum. To compression of the vena portæ and cava we are to attribute the common occurrence of ascites and anasarca in organic affections

of the pancreas. The great emaciation observed in scirrhus of the pancreas is explained by the great influence which diseases of this organ exercise over the functions of digestion and assimilation. Dr. B. next directs attention to one of the symptoms observed in the above case, viz. the ptyalism. He here gives numerous cases and authorities to prove that a reciprocal influence subsists between the pancreas and salivary glands. Fourcroy has observed, that, in obstructions of the pancreas, the salivary glands separated more saliva than usual. This is referred to the effect of sympathy. Certain instances of metastasis of inflammation are attributed to this sympathy. Augmented pancreatic secretion has been observed to be followed by a certain form of diarrhœa, and this in connexion with the salivary glands. While diarrhœa alternating with salivation is a consequence of inflammatory derangements of the pancreas, in scirrhus of the gland, on the contrary, continued constipation is almost always present, and is attended by salivation; which, coming on at a more advanced stage of the disease, is a symptom almost constant. This "balancement" of the secretion of the buccal and abdominal salivary glands is further illustrated by what occurs during pregnancy, in which salivation accompanied by constipation is very frequent. The diarrhœa without fever, of pregnancy, in which the stools contain a great quantity of serosity, may have its origin in augmented pancreatic secretion. Hence we see the close relations and intimate sympathy existing between the abdominal and buccal salivary glands. Dr. Battersby refers cases of pyrosis with rejection of limpid fluid, alternating with diarrhœa, to chronic alterations of the pancreas—in this view he is supported by Andral.

On Tubercular Leprosy. By A. S. Skene, Esq. (From the London Medical Gazette, June 14, 1844.)

Frances Savoy, aged 46, a married woman, with a family of six children.—March 28th. She presented the following appearance:—The whole surface of the skin seemed as if smeared with oil. The entire face studded with tubercles varying in size from that of a pepper-corn to that of a bean—the larger ones, about the lower part of the face, enlarged the lips and cheeks. Nose much enlarged; alæ pendulous, with ulceration and thickening of the mucous membrane—eyebrows devoid of hair, cilia nearly gone. The whole of the inside of mouth and fauces studded with tubercles of various sizes—voice husky and nasal. Breath very fœtid—many tubercles on the upper and lower extremities—respiration short—cough—sleeps and eats well—has little or no pain. Disease commenced about 4½ years ago. Her husband sleeps with her, and is in perfect health. One of her boys, eight years of age, has the disease.

Tranquil Robichaeux, a boy aged 15. March 29, 1844, he presented the following appearances:—

Entire face much swollen, and surface of skin as if smeared over with oil—studded with tubercles, very large, about the lower part of the cheeks and lips. Tip of the nose pendulous, and occupied by a livid, shining tubercle—lips much enlarged, full of tubercles on the inside. Tongue thickened, and protruding between the lips—palate and fauces thickly covered with tubercles. Uvula and tonsils tuberculated; one mass of disease, in fact, extending down into the pharynx. Cough—breath very fœtid—voice a mere whisper—no hair or brows or eyelids. Calf of left leg and the right instep ulcerated—incipient ulceration at the roots of the nails—tumours in either groin—four large ulcers on left thigh. Sensibility of the diseased parts much impaired. Sleeps indifferently—appetite good. Disease commenced about six years ago. His uncle died of the disease in a shocking state about a month ago.

This disease, as described in the above cases, is identical with the tubercular leprosy which prevailed throughout Europe during the Middle-ages. The new locality for it forms a part of the province of New Brunswick. It is chiefly confined to the East side of the land lying between the bay of Chaleur and the estuary of the Miramichi River, and more particularly to the Settlements on the Neguac and Tracadie Rivers. No positive information could be obtained regarding the original appearance of the disease in this quarter: all that could be known was, that the first case occurred in the year 1817, in a woman named Ursale Landré, one of a family of 19 children. This woman married and came to reside in Tracadie. She had five children. After the birth of her youngest child, she fell into a bad state of health, and continued so for six or eight years. Blotches appeared on her face, extending over the upper part of the trunk and extremities. After some time, distinct lumps came on the face and inside of lips and throat—hair of eye-brows and eye-lashes disappeared—voice became hoarse. She died in 1829. Her husband died of it in two years after.

The points still at issue, connected with this disease, relate to,—1st, its peculiar nature; 2d, the pathology; 3d, the causes; 4th, the diagnosis; 5th, the prognosis; and 6th, the treatment. With respect to the first point, the primary cause of all the symptoms seems to be a morbid principle, *sui generis*, known only by its effects, which most probably resides in the blood—the most prominent symptoms being a perversion of nutrition, with a secretion of new products in the tissues of organs. The extrinsic causes cited by authors are: indigence, including filth, exposure to extreme temperature, scanty or unwholesome food, with miasmata generated in the soil or subsoil. With respect to the other points, nothing either definite or satisfactory has been ascertained.

ILEO-CŒCAL OBSTRUCTION.

THE following fatal case of this disease was that of a medical student in Philadelphia, under the care of Dr. Dunglison.

Dr. Southwick, on the 18th of March, had an attack of bilious colic, with pain, flatulence, and bilious vomiting. Warm fomentations and opiates were prescribed, with enemata. 19th. Pain and vomiting abated—some meteorism and tenderness of abdomen—Seidlitz powder and castor-oil. Pulse natural. No evacuation. 20th. Castor-oil and ol. terebinth. Dr. Dunglison called in, and diagnosticated subacute peritonitis with cœcal obstruction. Ordered ten grains of calomel and two and a half of opium immediately—turpentine and castor-oil injections, and if no evacuations before next morning, to have twenty leeches applied. 21st. No evacuations—great decrease of the tenderness and meteorism. Twenty-five leeches over the ileo-cœcal region—castor oil mixture every two hours. In the evening a warm bath. 22d. At two o'clock in the morning a profuse fluid fæcal evacuation, followed by several others—vomited several times—great dulness over the ileo-cœcal region—" death-like sickness." 23d. Vomited a large quantity of fluid matters, with stercoracious odour. 24th. Pulse rose to 125—150—160, with great restlessness and anxiety. We need not pursue the details of treatment. He died at four o'clock of this day.

On dissection, the whole abdomen was tympanitic. A quantity of fæcal matter was found extravasated. Universal marks of inflammation were every where visible, with agglutination, and effusion. There was a binding down of the lower portion of the ileum, causing an obstruction there, and the appendix cœci had burst and discharged fæces into the general cavity.

We fear that the slowness of the pulse prevented early depletion in the above case. These abdominal, and especially cœcal inflammations, are equally insidious and dangerous.—*Medical Examiner, April*, 1844.

INTERNAL ANEURISMS.

IN the Philadelphia "MEDICAL EXAMINER," of April 20, 1844, three cases of internal aneurism are related, of which we shall notice two.

Case 1.—Was a female aged 34 years, a hard-working woman and intemperate. She entered hospital, Dec. 28, 1843, presenting dyspnœa, especially increased about three o'clock every morning, relieved by expectoration. She had a harassing cough and much expectoration. Auscultation revealed the "*cantus avium omnium*" of Lænnec, that often shows a combination of bronchitis and empyema. She had little fever, increase of pulse, or pain. Much dulness about the region of the heart, with a roughened first sound. Her history threw no light on the nature of the malady. On the 15th January pneumonia took place in the lower lobe of the right lung, which terminated fatally in two days.

Post Mortem.—There appeared an aneurismal tumour, two inches in diameter, issuing from the arch of the aorta, which had not burst, but was filled with laminated coagula. The coats of the aorta were much thickened about its origin, with depositions obstructing the orifice of the left carotid artery. The aneurism was closely adherent to the œsophagus, and pressed on the trachea. One of the mitral valves was atrophied.

Case 2.—A female cook, aged 40 years, entered hospital, 26th January, 1844, complaining of cough, expectoration frothy—pain in the left axilla. Had cough for three months, but only kept her bed during the last fortnight, though her breathing was short for six years. Percussion clear on *left* side, but dull on the *right*. The breathing cannot be heard in the upper part of the right lung, except by great exertion of the patient. The resonance of the voice there approached bronchophony. The heart itself did not present any particular phenomenon. At the junction of the second rib with the sternum, there was distinct pulsation and heaving, together with some elevation of the part, and the sounds of the heart were here (right side) as audible as in the region of the heart itself. No aneurismal thrill could be heard or felt. January 31, she was seized with a great difficulty of breathing, and next morning was in a distressing state, and spat much blood and mucus. She lingered till the 4th February, when she expired.

Post Mortem.—Right lung compressed, and its space occupied by a large tumour caused by effused blood from an aneurism of the arch of the aorta, which had given way. The arch itself was much dilated, and lined with scales of bone.

We have a patient under our care at the present time who has suffered much from cough and dyspnœa, and in whom we recognize a distinct pulsation under the right clavicle. We have little doubt of an aneurism of the aorta.

OBSERVATIONS ON THE CLIMACTERIC DISEASE, WITH CASES. By HENRY KENNEDY, M.B. &c. &c. One of the Medical Officers of St. Thomas's Dispensary.

[Dublin Journal, May, 1844.]

IT is now more than twenty years since Sir Henry Halford published his Paper on the Climacteric Disease, and for many a long year we have directed our attention to the malady in question, but not with the most satisfactory results. We occasionally see people, at all ages, droop in general health, but without any tangible or appreciable disease of any particular organ—exhibiting a declension of all the powers of life—a deterioration of all the vital functions—and this state continuing for many months, ending in death, or a gradual restoration to health.

Generally, however, some one organ, as the heart, the lungs, the kidneys, or the stomach gives way before the fatal termination arrives, and appears to be the immediate cause of death. That such a break-up of the constitution takes place more frequently at 63, than at 53—43, or 33, might be naturally expected; but beyond this, we verily believe that there is nothing about the "GRAND CLIMACTERIC" except the force of imagination. Dr. Kennedy believes that the malady in question is a substantive disease; but that it is not confined to the climacteric period, as he has seen it not unfrequently between the age of twenty and thirty years. But this is not all. Our author observes:—*Were I to speak from my own experience, I should say that the persons who pass through life without having laboured under it, once, if not twice, are the exceptions to the general rule.*" The following sketch will show that the climacteric disease is just what is familiarly called being "out of health," or "out of condition," for a longer or shorter period.

"Climacteric disease in general commences in a very gradual way. From three to six weeks may pass over, the individual not feeling quite well, and yet not making any distinct complaint. I have known it happen too, though it is not common, that the patient was observed by his friends to be looking ill for a considerable time before he made any complaints whatever. In the great majority of cases, however, the remarkable change the countenance undergoes is not observed till a later period of the disorder. Pains of one form or other are among the most common symptoms ushering in the attack: these may be of a darting and transient character, passing through the entire frame, or they may be more fixed and confined to a certain part. In the former case they are set down as rheumatic or gouty pains, according to the habits, or, it may be, the wishes of the individual; while in the latter nothing remarkable is to be observed about them, except that in general they are in a very marked degree periodic. Another very common symptom complained of in the earlier stages of the disorder is weakness, which is referred in general to the knees, the patient expressing himself in the usual way, by saying that these parts feel as weak as water. It is not alone when the patient is walking about that this weakness is complained of; on the contrary, they suffer from it while lying on a sofa, and I have seen it complained of to such a degree that it was described as amounting to absolute pain. It is also worthy of remark, in connexion with this sense of weakness, that it does not seem to be increased by any exercise the individual may take. In one instance, which will be given in detail, this symptom recurred for several days, and at a particular time of each day, before any other symptom showed itself, the individual during this period wondering what could be the cause of such weakness.

"It has been already stated that the disease under notice generally commences in a gradual way. To this, however, there are some remarkable exceptions, and this is an important point to keep in mind. I have known the disease commence with what may be called acute symptoms. Thus a common bilious attack has been followed at once by the usual symptoms, and well-marked climacteric disease has been established within fourteen days. A case of this sort will be detailed. A common cold, or influenza, has been already mentioned as ushering in the attack. But probably the most important of this class of cases is where the disease commences with head symptoms of so acute a character as to throw the medical man entirely off his guard. Under such circumstances a wrong view is very apt to be taken of the case, and erroneous treatment adopted in consequence. This will be alluded to again.

"After the pains, which have been before spoken of, have existed some time, other symptoms make their appearance, in quicker succession too than the commencement of the disease would lead one to expect. The appetite begins to fail; this soon increases to a total loss of it; and finally, should the attack be a well marked one, an utter aversion for all sorts of food succeeds. With this there is

of course loss of flesh, and strength, both of mind and body, and above all the sleep at this period goes astray. In a disease which is marked by such a variety of symptoms there is no more constant one than this loss of sleep; one exception only has come under my notice where it did not exist."

Thus the three chief symptoms are loss of flesh, alteration of countenance, and quickened circulation, with disordered function in one or more organs of the body. Or, to use the words of our author, the climacteric disease is—"a decay, for the time, of the several functions constituting life, but more particularly of those of the nervous system. To any one studying a case of the disease, it appears as if the system had got tired, and could not carry on its various functions with its wonted energy." If this be the climacteric disease, we agree with Dr. Kennedy, that it is to be met with at all periods of life, and in all classes of society—but more frequently, of course, in the later than in the earlier periods of existence.

In respect to treatment, it is hardly necessary to say that no specific plan can be laid down for a disease that has no specific character or seat. Debility is, no doubt, a prominent feature in the malady; but there is so often a local affection attending the general weakness, that we ought always to examine the head, chest, and abdomen. Such a state of bad health as is described by Dr. K. presents usually a considerable degree of derangement of the abdominal secretions; and if these are not corrected, tonics or stimulants will be of little avail. Alteratives, tonics, and change of air, are among the chief therapeutic agents.

On the Present State of Knowledge of the Nature of Inflammation. By T. Wharton Jones, F.R.S. (Condensed from the Medical Gazette, April 19, 1844.)

Retardation of the flow of blood in the small vessels with dilatation of their calibre, and at last stagnation of the blood-corpuscles in the vessels, constitute the first microscopical phenomena in the inflammatory process, as seen in the frog. There is good reason for thinking that the microscopical phenomena of inflammation are the same in man. It is generally supposed that the dilatation is primary, and the retardation of the flow of blood a physical effect of the preceding dilatation; the retardation however is greater than the dilatation will physically account for. With respect to the nature of the dilatation, it is now admitted that the dilatation of the arteries in inflammation is a state of relaxation or paralysis and not of activity. Mr. Jones, not being satisfied that the capillaries and radicles of the veins have contractile walls, which the small arteries are believed to have, and therefore unwilling to admit primary dilatation from relaxation in them, concludes that dilatation of the capillaries and radicles of the veins is secondary to the retardation of the flow of blood in the arteries, and is owing to distention from accumulation of blood. Henle thinks that relaxation and dilatation of the vessels, with retardation of the flow of blood, act in determining stagnation of the blood, and in this way: the retarded flow of blood, together with the relaxation and dilatation of the vessels, favours the exudation of serum; hence the plasma of the blood in the part becomes inspissated by a preponderance of protein matter over the salts. This inspissation of the plasma determines endosmotic changes in the red corpuscles, in consequence of which they are disposed to aggregate. Mr. Jones does not agree with Henle in this: he conceives that the stagnation of the blood must recognize some other cause than inspissation of the plasma. Mr. Jones considers that the proximate cause of inflammation, although affecting the constitution of the blood, does not reside in the blood only, but primarily in the agency on that fluid of the solids through which it passes in the capillary vessels—he thinks this appears from the limitation of inflam-

matory disease to a certain locality, from its easy reproduction at a subsequent period. The appearances, he says, attending the stagnation of the red corpuscles, are such as might be supposed to be the effect of a suspension of the conditions by which, in the natural state, the red corpuscles keep in the middle of the stream, neither adhering to the walls of the vessels nor to each other, and not readily entering the smallest capillaries; the effect in fact of the establishment of an attraction between the red corpuscles on the one hand, and the walls of the vessels on the other, as well as among the red corpuscles themselves, instead of the absence of attraction, or of the actual repulsion which naturally exists. Emmert, by way of explaining this attraction, indicates some of the conditions attending the operation of the attraction—he points out that constriction of the capillaries (small arteries) and the attraction between the parenchyma and blood-corpuscles are in antagonism—that when the constriction of the capillaries is *great*, the attraction between the parenchyma and blood is *small*; hence no congestion. When, on the contrary, there is *relaxation* and *dilatation* of the capillaries, the attraction is great between the parenchyma and the blood; and hence accumulation and stagnation of the red corpuscles.

Mr. Jones, before expounding his theory, claims the following postulates: 1. That the constriction and dilatation of the calibre of the small arteries, at least, if not of the capillaries, is owing to contraction and relaxation of their walls in virtue of their contractility or tonicity, which is dependent on the nervous system. 2. That the ordinary tone of the vessels is determined by the moderate discharge of nervous influence. 3. That the relaxation, atony, or paralysis of the walls of the vessels on which their dilatation depends, is owing to the suspension of nervous influence. 4. That the relaxation with dilatation of the vessels from suspension of the nervous influence is the precursor of the stagnation. The theory which Henle has formed of the mode in which the exciting cause of inflammation determines the suspension of nervous influence is this: the exciting cause acts primarily on sensitive nerves, exalting their activity. The motor nerves of the vessels which have sympathetical relations with the excited sensitive nerves, are secondarily affected—this affection of the motor nerves which supervenes by reflex action on the excitement of the sensitive nerves, is one of depression, or suspension of action; of paralysis—this form of sympathy is called *antagonism*.*

With respect to the inflammation of an organ occurring after section of some part of the sympathetic, Stilling refers it to paralysis of the walls of the vessels.

Exudation.—This commences immediately after or during the stagnation of the blood—it is at first serous, and afterwards pure plasma. So long as the vessels are entire, none of the corpuscles of the blood pass out or escape. With exudation is completed the inflammatory process, properly so called.

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* There is scarcely a shadow of difference between this theory and that propounded by Dr. Billing in his First Principles of Medicine.—*Rev.*

PHYSIOLOGY.

Muscle, a Neuromagnetic Apparatus.* (From the London Medical Gazette.)

The mechanism by which muscles contract or shorten their fibres is a question which has been much agitated. The view which I have taken is, that muscular fibre consists of a series of pieces in the form of discs, not immediately adherent to each other, but held together by an intervening substance, so yielding and elastic as to admit of very close approximation of the discs to each other, or their separation to a certain extent. These discs I consider analagous in their nature to *electro-magnets;* and I propose to call them *neuro-magnets*. The neuro-magnetic discs composing muscular fibré are of microscopical minuteness, and are arranged so as to operate on each other at very short distances only. The primitive fibrils of the nerves are disposed in loops across the muscular fibres, but not coiled round the neuro-magnets, as the galvanism conducting wire is around electro-magnets, when much electro-magnetic force is required. The nervous influence streaming along the primitive fibrils of the nerves, thus disposed in loops across the muscular fibres, communicates to the neuro-magnetic discs composing these fibres a magnetic state, by virtue of which they attract each other; this constitutes contraction of the muscular fibre.

On the Relative Proportion of Centenarians, of Deaf and Dumb, of Blind and of Insane, in the Races of European and African Origin, as shown by the Censuses of the United States. By Dr. Forry. (From the New York Journal of Medicine, May, 1844.)

In a preceding Number of the New York Journal of Medicine, Dr. Forry inserted an article, the object of which was to show the fallacy of an attempt made to prove, from the single fact that the census gives a much higher ratio of centenarians to our African than to our European race, that the two people constitute *distinct species*, and that their offspring, the mulatto, on the *assumed* ground of having a very short mean duration of life, is a *hybrid*. The subject of the relative number of deaf and dumb, blind and insane, in the two races, as well as the relative ratios among the slaves and free-coloured, was also noticed in the same article. In the Census of 1830 the number of deaf and dumb, and blind, was alone computed; that for 1840 included the insane also. In the Census of 1830 the ratio of whites, deaf and dumb, was 1 in 1964, and of the coloured population 1 in 3134; and of blind, the ratio of the former was 1 in 2651, and of the latter 1 in 1584. In this inverse result in the two races, the excess is about equal, the deaf and dumb whites being a little more than three to two, and the excess of coloured blind being in about the same ratio. According to the Census of 1840—

The ratio of the white deaf and dumb was - - -	1 in 2123
" coloured " - -	1 in 2933
The ratio of the white blind was - - - -	1 in 2821
" coloured " - - - -	1 in 1509

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* Extract from Mr. Wharton Jones's Lecture introductory to his course on Anatomy and Physiology at the Charing Cross Hospital, Oct. 1843.

The ratio of the white insane was	-	-	-	-	1 in	977
" coloured "	-	-	-	-	1 in	978

It is here seen that the proportions of the insane in the two races are identical, being about 1 in 1000. The discrepance among the States is so great as respects the ratios of the coloured insane, that no reliance can be placed on their correctness.

Relative Proportion of Centenarians in the two Races.—It has been proved by the Censuses that the coloured race, by virtue of some peculiar tenacity of life, far outnumbers the whites in centenarians. A comparison of the whites and the coloured race, at the age of 100 and upwards, in the Census of 1830, shows that the chances of attaining this great longevity are forty times as great with the free coloured as the whites, and with the slaves, eleven times as great; and in 1840, the disproportion, though somewhat diminished, shows nine slaves and thirty free-coloured centenarians to one white one. Dr. Forry maintains that this mere tenacity of life possesses not the least importance in the estimate of the mean duration of man's life. In the Report on the Sanatory Condition of the Labouring Population of Great Britain, it is observed that the greatest proportion of centenarians are of the labouring classes; and that instances of them have from time to time appeared amidst the crowded populations in some of the worst neighbourhoods of London, where the average duration of life is the lowest. Dr. Forry concludes that, as far as regards centenarians, they are to be found in the worst periods of man's history, as respects the condition of population, and often too, in the most insalubrious localities; that they abound in countries having a low mean duration of life, and that they decrease and finally disappear in proportion as the mean term of man's existence is extended by the improvement of his physical condition: and lastly, that they are found in that class of society, which has the lowest mean duration of life. He adds further, that the investigation of man's organization and of his natural history will continue still further to confirm the conclusion, that the entire human race have been made upon one model, and accordingly constitute but one family.

ON THE ACTION OF CONEIA ON THE BLOOD. By Professor HUNEFELD. (From Simon's Beiträge zur Physiologischen und Pathologischen Chemie und Mikroscopie. 1844.)

As soon as any Coneia is mixed with the blood, a striking change became immediately perceptible. The blood was changed into a dirty reddish yellow greasy mass, which no longer allowed any blood-corpuscles to be recognized in it under the microscope. The Coneia employed was perfectly pure. On adding muriate of Coneia the blood remained unchanged. A short time since, I repeated these experiments with Coneia, and obtained the same result. The recent experiments directed to ascertain the causes of this re-action now show me, that Serum and Albumen coagulate in a similar manner; for if a glass rod, moistened with Coneia, be introduced into these fluids, a tenacious coagulum forms on the rod. Coneia shows this property with creosote, oil of turpentine, oil of bitter almonds, and some other ethereal oils; whilst others, as oil of rosemary, of peppermint, chamomile, valerian, petroleum and citron oils effect no coagulation in this way, and it is only on adding some water and shaking, that they produce something resembling a coagulum; differences which deserve to be more closely investigated. A moderately concentrated solution of dried blood soon undergoes a change of colour into a yellowish-brown, so that the fibrin of the blood becomes changed, and after longer standing, the blood becomes thickened,

Coneia, accordingly, deviates from the other alkaloids in these re-actions, and approximates, as was to be expected, to the ethereal oils. Whether the other fluid alkaloids, as for instance, fluid Nicotine, produce a coagulating effect, I leave to be ascertained by those, who have those substances at hand. That Coneia, given by itself, and as a salt, kills with extreme rapidity, has been stated by Christison, and I have had an opportunity of ascertaining the great suddenness of its deadly operation. That the Salts of Coneia are equally poisonous, that a drop of Coneia can kill a large rabbit in a few minutes, that the blood-corpuscle, and the blood of the animal just killed, evince no change whatever; that death here occurs with peculiar nervous symptoms, whilst in the case of other narcotics it is ushered in with different symptoms, all these circumstances do not favour the opinion, that the actions of poisons are always of a chemical nature. A distinction may be made of poisons into blood-poisons and nervous-poisons. Whoever keeps all the physiological phenomena, namely, the great body of Nervous Physics, constantly before his eyes, will find that the actions of external powers on the organism cannot be explained on chemical principles, and that we are deeply indebted to some distinguished Physiologists, for their having given a check to the chemical views which are now becoming so prevalent. I let fall this observation, and reserve its extension for a more convenient time.

CONTRIBUTIONS TO THE PHYSIOLOGY OF THE HUMAN OVARY. By CHARLES RITCHIE, M.D., Glasgow. (From the London Medical Gazette, May, 1844.)

1. THE Fallopian tubes of the infant, and of the child before puberty, are perfect in their structure, although their patency is more or less obstructed at birth by the presence in them and in the Uterus of a tenacious glue-coloured mucus; and immediately before the establishment of menstruation, and throughout adult life, they are occupied, and have their uterine extremities in particular distended by a cream-looking fluid similar in appearance to the ordinary vaginal secretion, and which, as seen by the microscope, consists of innumerable very minute globules in masses of an oval form, differing from the globules of blood or pus.

2. The ovaries of new-born infants and children are occupied, sometimes numerously, by Graafian vesicles or ovisacs, which are highly vascular as early as the sixth year, and vary in size from the bulk of a coriander seed to that of a small raisin, in the 14th year, at which time they are filled with their usual transparent granular fluid; their contained ova can be detected, and their coats are so elastic, that their contents, on their rupture, can be projected to at least twelve inches: the existence of menstruation not being essential, therefore, to those conditions, either as a cause, or as an effect, and the possibility, even at this age, should rupture of the follicles occur, of their contained ova being conveyed to the uterus, along the Fallopian tubes, kept patent by their peculiar secretion.

3. The Graafian vesicles contained in the ovaries prior to menstruation, are found, as they also are in every other period of life, in continual progression towards the circumference of the glands, which they penetrate, discharging themselves by circular-shaped capillary pores in the peritoneal coat; the presence of the catamenia being thus no indispensable prerequisite to their rupture.

4. The establishment of menstruation, does not necessarily give rise to any immediate modification in the manner in which the ovisacs are discharged, or in their subsequent changes.

5. The ovisacs of the healthy menstruating female are, in general, larger and more injected with red-vessels, than they are previous to the setting up of that condition.

6. Menstruation gives rise to a congested state of the uterine vessels, as is manifested by the appearance.

7. The progression of the Graafian follicles, or ovisacs, towards the surface of the ovaries, their appearance under the peritoneal coat as copper-coloured macules, the absorption of that membrane, and of their own tunics, and the occurrence of a solution of their continuity at the point at which they unite, take place in the menstrual, just as in the ante-menstrual life.

8. The shape assumed by the ovisacs, depends on the part of the ovary they occupy.

9. The ovisacs of the human female do not require the presence of menstruation for their development or rupture.

10. The only circumstances essential to the discharge of ova, are the rise of the vesicles which contain them to the surface, and the gradual thinning of the ovarian peritoneum, and of the coats of the ovisacs at their point of union.

11. The appearances of the ovaries, Graafian vesicles, and of the blood contained in the latter, subsequent to their rupture, vary according to the time at which they are examined, and the absorbing power of the individual.

12. In case of the recent evacuation of an ovisac, the peritoneal coat of the ovary is occupied by a jagged slit or opening, having a florid vascular areola; in those of longer standing the opening is covered over, with the exception of a minute circular foramen in the centre, or, where the slit has been of great length, of two such openings, with new tissue, surrounded by claret-coloured margins.

13. The blood generally contained in the ruptured vesicles, is seen at first as a florid coagulum, next having its centre only scarlet-coloured, and its periphery more or less black: frequently the clot has a gamboge colour; lastly, the clot is found in different stages of absorption; sometimes in every variety of the uterine state the ruptured follicles are found empty, or containing only an aqueous fluid.

14. The coats of the ruptured ovisacs have been found in four different general conditions, apparently dependent on the relative degree of organization, each class presenting also modifications of their respective characteristics.

15. The first class was distinguished by the attenuated state of the coats of the ruptured ovisac, and by the total absence of any organic changes in these, different from their condition previous to their discharge; the only alterations observable being—

A. The mechanical dying of their coats, of an inky black colour, proceeding from their contact with their contained decomposed blood.

B. The dying of their coats of a yellow tint, from their enclosed clot of blood having become converted into a rust-coloured pigment, not unlike some of the denser sputa of acute pneumonia.

This first class of ruptured ovisacs was found indifferently in all ages and states subsequent to puberty.

16. The second general class of ruptured vesicles was characterized, in addition to the presence of blood within their cavities, by organic changes in their coats—it was observed,—

A. Under the form of soft white bodies of a yellowish, fatty aspect, having the outer coat much thickened, their inner remaining as a delicate diaphanous pellicle.

B. As dense white bodies of a whitish, shining, firm structure, their inner coat being the seat of these changes, and their outer adhering loosely as a transparent, pellicular layer.

A. The discharged ovisacs which constituted the soft white bodies were seen—

1. At a very early period after their discharge, their walls distended with a coagulum, and painted with turgid vessels.

2. In a similar state, except that the inner membrane had a swollen, puffy look, and from the looseness of its adhesions might be easily gathered into holds.

3. At a period so advanced, that the clot had become uniformly black and solid, the inner layer was easily separated from the more external, which was also thickened and become yellow.

4. At a point still more advanced, the outer, thickened, yellowish coat had become corrugated into wrinkles or folds.

5. At a still more advanced period, the cysts were converted into yellowish white, and generally globular bodies.

17. These white bodies (corpora albida) were found in every variety of uterine condition subsequent to the establishment of menstruation, but never before it.

18. White bodies, as such, had no necessary connexion with the gravid condition.

19. The third general class of discharged ovisacs was distinguished by the secretion of an organized, yellow-coloured, brain-like, granular matter.

20. The fourth general state of the ruptured ovisac was peculiar to the impregnated and lactating female in the period between the eighth and thirteenth month after conception, and appeared to be a conversion of the forms already described, arising out of a higher and more perfect organization. Down to the seventh month of pregnancy the cysts contained in the ovaries did not differ in any respect from the cerebriform bodies found in the unimpregnated state, unless that they were sometimes plumper, more vascular, better developed.

21. The rose or red-coloured (corpora rubra) were not always present in the gravid or recently puerperal states.

22. The excess of corpora albida over every other physiological appearance in the impregnated ovary, seemed to result sometimes from the gradual obliteration of the vessels of the highly vascular outer coat, and cerebriform matter lining it.

23. In many puerperal women, bodies of identical character, but in different stages of progression, were often found together, and it was then supposed that the best organized cysts were at once the most recent, and those which had furnished the fecundated ova.

24. In other pregnant women, in none of which had there been twins born, two bodies of a similar kind, and of equal organization, were found either in the same ovary, or in the two: and in such it was impossible to determine the productive from the non-productive vesicle, and their rupture was therefore believed to have been coetaneous, and that while the ovum of the one only had been fecundated, the coats of both, alike capable of taking on a higher organization, had been exposed equally to the increased ovarian circulation consequent on utero-gestation.

25. The simultaneous development in the ovaries of two corpora rubra was not met with in the present series of observations—a circumstance which may be attributed, however, to the comparatively limited nature of the latter.

26. There was no evidence that granular matter was ever secreted around an unruptured Graafian follicle.

27. A nippled or cumulated protuberance of the surface of the ovaries over a granular cyst; crateriform openings on the apices of the latter, with vascular edges; and serrated "internal cicatrices," traversing the interior of the cephaloid bodies; and blood-vessels ramifying on their granular matter, were not peculiar to the gravid female.

28. Immediately on the arrest, and during the suspension, of menstruation, by any cause, the Graafian vesicles were found less vascular, thinner, and smaller, than their normal structure in menstrual life.

29. The co-existence of this modification of the ovisacs with the presence of white bodies in the ovaries, was not peculiar to the gravid state.

30. The obliteration of the cicatrices peculiar to menstruation, the presence of miliary ovisacs in the ovaries, and their appearance beneath the peritoneal coat as small copper-coloured spots, along with others of a yet more minute size, which had penetrated the substance of this membrane, and which did not require more than its thickness for their entire inclusion, together with the protrusion of some of these, often with extremely attenuated coats, in the form of very minute vesicles at the surface of the ovary, or along with puncta, or with a raw, blistered, or abraded appearance; and the existence, at the same time, in either ovary, of a cerebriform body.

31. The changes in the character and mode of the production and discharge of the Graafian vesicles which follow suppressed menstruation, from whatever cause the latter proceeds, was not seen to occur earlier than two months after the last menstrual flow; and previous to the expiry of this period, therefore, there were, in such cases at least as presented only the cephaloid bodies, no indications by which the fact of pregnancy could be determined, irrespective of the discovery of the ovum, and the greater organization of the deciduous fungiform villosities which are thrown out in the uterine cavity at every menstruation, and which, in such cases, suggest the idea of their being the rudimentary spiral arterial coils and horizontal sinuses of the membranous decidua.

34. The only special indication which distinguished the ovaries of lactating women delivered at longer periods than four months after the natural term, was the unusual presence in them of corpora albida.

35. The ovarian condition which most resembles what is here stated as occurring during lactation, is that met with in amenorrhœa from disease.

36. Graafian follicles of some size were found in the ovaries for fifteen, and white bodies for twenty years after the critical age, and the discharge of attenuated minute vesicles, apparently simple cells, from the surface of these glands, appeared to terminate only with life.

37. No relation was found to exist between the number of corpora albida discovered in the ovaries after death and that of the previous pregnancies; nor was there any specific distinction in the ovaries of women who had borne children, as compared with those of females who had not been gravid.

41. The uterine appendages were not, on every occasion, found remarkably injected with blood during or near to the time of the catamenial flow.

47. Ovisacs, containing altered blood, or having their coats dyed black, (corpora nigra,) or yellow, (corpora lutea,) may occur independently of menstruation, and were, exclusive of the effusion of lymph from the extremities of the tubes and the exterior of the ovaries, which appeared to have a similar origin, the only ovarian changes which could be suspected to have any connexion with venereal orgasm.

REMARKS ON THE EARLY CONDITION AND PROBABLE ORIGIN OF DOUBLE MONSTERS. By ALLEN THOMSON, M.D. &c. &c. (From the London and Edinburgh Monthly Journal of Medical Science, June, 1844.)

IN the more important recent works on teratology, though anatomical structure and external form, are made the basis of division into classes, orders and genera, yet the place assigned to a considerable number of malformations in the divisions thus established, is regulated in some measure by the theoretical views entertained of the origin and nature of the malformation, founded upon known laws of embryology. Still even in the best of these classifications Dr. Thomson thinks that sufficient weight has not been given to theoretical considerations of the nature

of malformations derived from embryology; and that, by due attention to these views, some improvement may be suggested, at least in the Section comprising malformation by excess. Thus, a careful revision of the various cases of redundant extremities appears to show that there is not in them, as in most other malformations, a series of gradations from the least to the greatest degree of the abnormal condition, or from the mere superaddition of the joint of a finger to that of a whole extremity; but, on the contrary, that there is a sudden and wide hiatus between the form of polydactyle mal-formation, and the superaddition of a whole extremity. The organs which are usually, if not indeed alone, the seat of an increase in number in single redundant monsters belong to a particular class, those, viz. in which the competent parts are naturally numerous, and which are observed to be most subject to undergo variations in number in the series of lower animals. Dr. Thomson is therefore disposed to think it more consistent with observed facts to consider as true double formations only those instances in which the parts of two cerebro-spinal axes, or of two vertebral columns are present, inasmuch as there is, in his opinion, no well-authenticated instance on record of the existence of the double condition of any important organ in which there is not reason to believe, that some degree of duplicity has also existed in the cerebro-spinal system. Dr. Thomson proposes to describe the early condition of double monsters, and to deduce, from a few observations made by himself and others, the most probable theory of their origin. He wishes, however, in the first place, to offer some remarks on the nature of the explanation afforded by a knowledge of embryology regarding the origin and nature of malformations in general.

With respect to malformations by defect, almost all teratologists are agreed in referring them to the occurrence of what has been called arrest of development. This theory, however, of arrest of development, is not applicable to all the malformations now under consideration. The various fissures or divisions of organs, as the cleft palate and hare-lip, open processus vaginalis or urachus, &c. are among the best examples of arrested development. But, again, many malformations occurring in single monsters, and all the forms of double malformation, receive little or no direct elucidation from this theory. During a part of the last century much controversy existed among scientific men as to whether mal-formations ought to be considered as dependent on an original tendency, or morbid condition of the germ, or whether they proceeded from injury or disease supervening during development. This controversy has now terminated, according to Dr. Thomson, in too exclusive a rejection of all accidental causes of malformation. Many malformations of the head and spine are with much probability attributable to the occurrence of hydrocephalus or hydrorachitis, at an early period of fœtal life.

Various attempts have been made to corroborate the mechanical or accidental theory of the origin of malformations by an appeal to experiments. Though the results of these experiments do not entirely establish the point, still they illustrate in some measure the extent to which some mutilations of the embryo may be indebted for their origin to mechanical causes acting during its development. It must be admitted, however, that the constancy with which certain forms of malformation return, and the remarkable symmetry they very generally present, deprives this mechanical theory of all its probability, in reference at least to by far the greater number of them, and points to an original disposition of the ovum or germ. (The author promises a continuation of this very interesting article, of which we shall take care to present an analysis.)

ON THE CHEMICAL PHENOMENA OF RESPIRATION. By M. GAY-LUSSAC, (Condensed from the Medical Gazette, May 10, 1844.)

THE physiological world is divided between two opinions on the subject of the chemistry of respiration. According to one, propounded by Black, and advocated by Lavoisier, the formation of carbonic acid and of water takes place in the lungs themselves, and in virtue of the mediate contact of the oxygen of the inspired air with the blood contained in the delicate blood-vessels. According to the other view, the oxygen of the air does not act immediately on the blood in the capillaries of the lungs; it is merely absorbed there: the chemical phenomena in which it is influential takes place without the lungs in the course of the general circulation; and it is only on the return of the blood to perform its lesser circuit that it gives off the products of the oxidizing processes that have already taken place in its mass.

The latter theory is chiefly indebted to M. Magnus for its development, and for the grounds upon which it was accepted in the world of science. The grand object of Magnus was to prove—1, the presence of carbonic acid in the blood; 2, the different proportions of carbonic acid, and of atmospherical air or oxygen in the blood of the arteries and veins. M. Gay-Lussac questions the validity of M. Magnus' conclusions; some of his inferences being found even in opposition to those which his facts would warrant. According to Magnus' theory, venous should contain more carbonic acid than arterial blood. Yet by actual experiment this chemist obtained less from venous than arterial blood. This grand contradiction, however, is not the only one. Both kinds of blood contain oxygen and azote as well as carbonic acid. If azote be formed in the course of the circulation, as experience has proved, the quantity of this gas ought to be less in arterial than in venous blood. Yet, according to the figures in Magnus' experiments, arterial blood contains half as much azote again as venous blood. The relative proportions of oxygen alone seem at first sight to agree with Magnus' theory, venous blood being found to contain about one-half less oxygen than arterial. Now it is obvious that the carbonic acid which makes its appearance during respiration, is formed at the expense of the oxygen absorbed by the blood; hence there must be a certain relation between the volumes of these two elastic fluids. If, for instance, we know the relative volume of the carbonic acid expired in a given interval, we know that the corresponding volume of oxygen absorbed must be at least equal to it. Unfortunately, the conclusions of M. Magnus regarding the quantities of carbonic acid and of oxygen discovered in arterial and in venous blood respectively, are mutually subversive of each other.

For want of positive data, which are not to be attained from the labours of Magnus, we shall take them from Davy. 1. Davy states that a man expires thirteen cubical inches of carbonic acid gas in one minute. 2. That the heart, at each pulse, expels one ounce of blood; and, taking the number of contractions at 75 per minute, 75 ounces, or 115.7 cubic inches of blood will pass through it in the same interval of time. Now 115.7 cubic inches of blood having given off 13 cubic inches of carbonic acid, 100 of blood will contain 11.23 of this gas, a quantity which the blood might readily part with, as, according to M. Magnus' experiments, it contains much more than 20 per cent. of the gas. But, supposing that the venous blood gave off 11.23 per cent. of its volume of carbonic acid, it is evident that to produce this, arterial blood ought to contain at least an equal volume of oxygen, say 11.23. Moreover, as in the respiratory act, of four parts of oxygen absorbed, three go to form carbonic acid, and one to form water, the blood must have taken up, in its course through the lungs,

not only 11.23 oxygen, but $11.23 + \frac{11.23}{3} = 14.97$, a quantity which is sixteen times greater than the 0.926 of oxygen which pure water can dissolve in the same circumstances, that is to say, in contact with atmospherical air. And further, if we allow with Magnus that venous blood, on reaching the lungs, still contains about one-half of the oxygen originally dissolved in the arterial blood, the whole quantity which the latter ought to contain at its exit from the heart will be, first, 14.97 destined to be used up in forming carbonic acid and water, plus 7.48 remaining in the venous blood; in all 22.45, a quantity which would require us to suppose that, in contact with an atmosphere of oxygen, 100 of arterial blood could take up $22.45 \times \frac{100}{21} = 106.9$, or more than its own volume of the gas. Such a capacity in arterial blood for dissolving oxygen, though not impossible, would require proof.

Magnus explains the change of colour in venous blood entirely by the loss of carbonic acid in the lungs. But it is not proved that venous blood exhales carbonic acid in the lungs; and then, if it were, the quantity of carbonic acid which it does not give off, according to Magnus, is still so great in comparison with what it does eliminate, that it appears impossible to explain by a difference in quantity relatively so small, any change of colour so remarkable. It is therefore obvious, that the theory of respiration, advocated by Magnus, has as yet no sure foundation, and that the chemical phenomena of this vital act require to be discussed anew. M. Gay-Lussac, with M. Magendie's able assistance, proposes to go over the ground of the theory of respiration.

On Moving Molecules in the Interior of Cells. (From the Provincial Medical and Surgical Journal, June 5, 1844.)

In a letter from Mr. Addison, so favourably known to the medical profession for his numerous and valuable microscopical researches in anatomy, to Dr. Streeten, the editor of the Provincial Journal, the former gentleman states, among other matters, that he has discovered, by employing a magnifying power, from 700 to 1000 diameters linear, an essential distinction between cells having moving molecules visible in their interior, and a disposition to discharge or liberate them; and those which have apparently passed through or have been arrested in the progress of what appears to be a vital and normal change. The letter contains the result of a more minute and critical examination of the objects circulating in the blood of the part, or discharged in the frequent and unimportant affections of the skin and mucous membranes, with especial reference to these active, moving, or living molecules, so numerous within the blood, the saliva, and the pus-cells. The paper is accompanied by a drawing which gives a faithful representation of the appearances exhibited in the colourless blood and in the pus-cell—for further information we beg to refer to the original paper.

MATERIA MEDICA AND PHARMACY.

ON THE POISONOUS PROPERTIES OF THE BARK OF THE LABURNUM-TREE. By ROBERT CHRISTISON, M.D. (From the Edinburgh Medical and Surgical Journal.)

A FARM servant named Gordon, 18 years of age, being on bad terms with his fellow servant the cook, administered to her in some broth a portion of the bark of the *Cytisus Laburnum*, or common laburnum tree; this he did for the purpose of exciting vomiting. The cook soon became very ill, and in five minutes was attacked with violent vomiting. After the first attack of vomiting, which occurred at three in the afternoon, the retching and vomiting continued incessantly throughout the entire evening, night and subsequent day; there was at the same time shivering, general pain in the belly, especially in the stomach, and such feebleness from the moment she first took ill, that she with difficulty walked to her bed; severe purging also occurred on the morning of the second day. It was some days before she was able to resume her work. The sickness, vomiting and purging, however, continued to recur, in some degree, daily; pains throughout the abdomen; she rapidly fell off in looks, flesh, and strength; about six weeks after she first took ill, she was forced to give up service; her complaints went on without any intermission, except in degree, for about seven months, when she was first visited by Dr. Ross, who was sent on the part of the law-authorities to investigate the particulars of the case. He found her labouring under symptoms of marked gastro-intestinal irritation, such as vomiting, especially after food, pains in the abdomen increased by pressure, diarrhœa with tenesmus and slightly sanguinolent stools, flatulent distension of the belly, and the like. There was great debility, impaired appetite, hurried and laborious respiration, a rather frequent and easily excitable pulse, strong bellows' sound over the roots of the large vessels of the heart, a pale countenance, bloodless lips, and a pale, glazed tongue. The patient recovered very slowly. This woman having enjoyed robust health previous to the administration of the Laburnum-bark, it cannot be doubted, that if the bark caused the first symptoms, it must also have occasioned all the subsequent illness.

ON ARSENIC AS A POISON; ITS TESTS AND ANTIDOTE. By E. J. SHEARMAN, M.D. Rotherham. Read before the Sheffield Medical Society, March 7, 1844. (Abridged from the Provincial Medical and Surgical Journal, April 3d, 1844.)

IN order to show the existence of arsenic in a court of justice in England, we should be able to prove the following facts so satisfactorily, that a *jury* may not only *see*, but *perfectly understand them.*

1st. The *metal* should be produced either from the contents of the stomach, intestines or urine, if the patient should survive; or, if dead, from these and some part of the body.

2d. We should be able to prove that the animal substances experimented upon were the excretions, and parts of the patient's body only; *unmixed with any other matter.*

3d. We must also prove that the tests we use to show the existence of arsenic *have not a particle of arsenic in themselves;* and this requires great caution, because a skilful advocate might make a guilty prisoner appear innocent, owing to the omission.

4th. As *antimony, bismuth, tin, zinc, lead, tellurium, cadmium, selenium,* and *potassium,* sublime in a somewhat similar manner to *arsenic,* and *may be mistaken*

for it; it is quite necessary for an inexperienced eye to guard against such a mistake.

When the contents of the stomach, or a decoction of the stomach, liver, &c. in distilled water, are to be operated on, the most efficacious manner of proceeding is that recommended by Christison. The first point is to get rid of the animal matter. When a clear solution is obtained, with but a small portion of animal matter in it, *the ammoniacal nitrate of silver gives a lively lemon-yellow precipitate —the arsenite of silver.* The *ammoniacal sulphate of copper gives an apple or grass-green precipitate—the arsenite of copper.* And the transmission of *sulphuretted hydrogen gas* through this solution, previously neutralized, and then slightly acidulated with acetic acid, throws down an abundant *sulphur-yellow precipitate* —the *sulphuret of arsenic.*

It is the best plan to boil the last precipitate in the solution a few minutes, which drives off the excess of sulphuretted hydrogen gas, and allows the whole of the sulphuret of arsenic to deposit. This is to be collected in a filter; dried on a watch-glass; introduced into the bottom of a bulbed tube, and covered with black-flux, or, what is better, freshly-ignited charcoal. The tube is then to be heated by a spirit-lamp, first at the part just above where the flux is, and then gradually below, so as to sublime the metallic arsenic all around the tube; which forms a *brilliant polished metallic appearance*, that cannot be easily mistaken when once seen. The metallic arsenic should afterwards be oxidized by the heat of the spirit-lamp and the oxygen of the air, and driven up the tube, so as to allow it to form *octohedral crystals of arsenious acid with triangular facettes.* The other mode of obtaining metallic arsenic is by Marsh's hydrogen test—the objection to this method is the necessity for using zinc, which itself often contains arsenic. The next method is that of Mr. Ellis of University College, London, for which we refer to the paper itself.

There is another test which Dr. Shearman thinks deserving of attention—viz. *the decomposition of distilled water by galvanism, to which the suspected solution is added, with pure sulphuric acid*, collecting the hydrogen from the negative pole, igniting it, and examining the stain left in a glass-tube open at both ends. If there is the least particle of arsenic, the hydrogen will combine with it, and you then have a stain of *metallic arsenic* with *rhomboidal crystals*; which you may *oxidize, collect and dissolve in water: go through the fluid tests, reduce the sulphuret in a tube, and sublime it into arsenious acid again.* This is the most delicate test.

The most likely substance to be mistaken for arsenic by any of these tests is *antimony*, because *antimony sublimes into the same kind of crystals as arsenic does.* Attention to the following rules will enable us to distinguish. *Metallic arsenic sublimes at* 356° *without liquefying into rhomboidal crystals; arsenious acid sublimes at* 380° *into octohedral crystals; metallic antimony sublimes* not under 810°; and cooling, acquires a highly lamellated texture, and yields *octohedral crystals like arsenic.* After you have obtained a deposit of the suspected metal in a glass tube, if you heat the tube gradually by a spirit lamp, *should the metal be arsenic*, it sublimes on the *cool part of the tube* into *octohedral crystals*; which can be *dissolved in water*, and tested by the three fluid tests. If it is *antimony*, it first produces *dense white fumes*, and an *amorphous white powder is deposited*; and the *heat being kept up*, the tube is lined with a *white crust* insoluble in water. The question then comes—*how can a witness swear most positively that a substance is arsenic and nothing else? and how can he convince an unscientific jury of that fact?* I think only thus: 1. *By producing the metal and showing its crystals.* 2. *Reducing it to the oxide and showing its crystals.* 3. *From these crystals going through all the fluid tests.* 4. Reducing the sulphuret again to its metallic state, then to the oxide, and again going through the fluid tests. 5. And if this be shown clearly, it will *be impossible for any advocate to mislead a jury.*

With respect to antidotes, Dr. Shearman has found the *moist hydrated peroxide*

of iron to be the most efficacious. A table spoonful to be given in plenty of water, every five minutes to an adult. *This is perfectly inert, if kept dry.*

I. LECTURE ON THE STATE OF PHARMACY IN ENGLAND, AND ITS IMPORTANCE TO THE PUBLIC, WITH REMARKS ON THE PHARMACEUTICAL SOCIETY. By. J. LLOYD BULLOCK.

II. PHARMACEUTAL JOURNAL AND TRANSACTIONS. Edited by JACOB BELL, June 1, 1844.

THE object of this lecture of Mr. Bullock is to impress upon the minds of the rising generation of *Pharmaciens* the indispensable necessity of making themselves thoroughly acquainted with the principles and practice of Chemistry. In the course of the lecture, however, Mr. Bullock takes occasion to allude to certain acts and proceedings of the Pharmaceutical Society, of which he disapproved so very much, that he actually withdrew, from that body. The reasons for his withdrawal he states in very plain, intelligible terms. In the first place, he says that "the Society, if established for the benefit of Pharmacy, should have kept to a strictly honourable course." Mr. Bullock considered that the Council of the Pharmaceutical Society deviated from this honourable course, when they held out an expectation, that members of this Society only would be held legally qualified to pursue Pharmacy, whilst persons who should not become members would lose this important privilege. Now, really taking every thing into consideration, we cannot go all the way with the learned Lecturer in accusing the Council of having deviated from the "strictly honourable course," because, forsooth, among the other inducements to become members of the Society, one was made to consist in making people believe that the privilege of practising Pharmacy was to be conceded exclusively to those who should enrol themselves among its members. The Council were desirous that the Chemists and Druggists should do that which would raise their character and respectability, and to induce them to do so, they held out a sugar plum—

ut pueris olim dant crustula blandi
Doctores, elementa velint ut discere prima.

We think we might dispose of the other charges brought against the Society, in a somewhat similar way. The council of the Society, as men of sense and men who possessed a knowledge of the world, well knew that different individuals are induced to adopt the same measures by different motives—some must be coaxed, some frightened, some irritated into the adoption of certain plans; accordingly they very properly acted on the hint—

Irritant, mulcent, falcis terroribus implent.

With respect to the distribution of the diploma to the members of the Society, we can see no harm in it. We all know that a man likes to have something to look at, and to show for his money. There is one charge made by Mr. Bullock, which we cannot at all understand; we mean that of obliging every member and associate to pay for the Pharmaceutical Journal, instead of permitting its transactions to be published in "the proper channels." We cannot, for the life of us, see a more proper channel than the Pharmaceutical Journal for the publication of pharmaceutical subjects, and we believe that, until the establishment of the present Pharmaceutical Journal, we had no other journal whatever exclusively devoted to that purpose.

VETERINARY PHARMACY.

Veterinary Pharmacy, and indeed veterinary practice altogether, were, until some few years back, in a truly deplorable state. Analogy seems to have been the almost only guide in the selection and employment of horse-medicines formerly, it being the general belief that most medicines had a similar effect on

horses and on the human subject. Mr. Bracy Clark, in his *Pharmacopœia Equina*, has shown that many remedies in constant use for the human subject, have a very slight action, and, in some cases, no apparent action whatever, on the horse. Among the purgatives he enumerates jalap, elaterium, gamboge, and colocynth, as producing no laxative effects on the horse, although administered to such an extent as to occasion the death of the animal. Among the publications which have tended to promote the advancement of veterinary medicine we may notice the *Veterinarian*, commenced in 1828, by Mr. Percival and Mr. Youatt. This journal is intended to supply the place in the veterinary department, which is occupied by the Lancet and Gazette in the medical profession.

THERAPEUTICS.

On the Ready Curability of the more Acute Form of Hydrocephalus, in its Earliest Stage, under Active Treatment; with a Case. By Alexander Harvey, M.D. (From the Northern Journal of Medicine, June, 1844.)

The writer, after stating the various opinions now generally entertained by the profession with respect to the degree in which hydrocephalus in its more acute form is amenable to remedies within the first two or three days from its outset, very justly observes that the settled convictions of our minds in regard either to the curability of the disease or the diagnosis of it, in its early stage, will very materially influence our conduct in this department of practice. And accordingly it will be found that those who entertain a confident persuasion of the ready curability of the disease, at the period already mentioned, and are impressed with the importance of being satisfied, in judging of the diagnosis, with indications much short of certainty, are at once prompt and energetic in their practice; that those who are more or less sceptical as to its curability, or require rather clear evidence of its existence, are so far influenced thereby, in cases at least which are at all doubtful, as to decline or defer any very active treatment; and that those who, though agreeing generally in the views of the former class, are less confident in their apprehension of them, and less sanguine as to the general efficacy of bold and energetic practice, are proportionally less prompt and decided in their treatment. The principle which guides Dr. Harvey in his treatment of this disease is, that hydrocephalus, in its more acute form and in its earliest stage, is readily amenable to active treatment, and that its diagnosis may in general be then made out with sufficient confidence to warrant such treatment. The evidence in favour of this principle he declines adducing for the present, but gives a case which is strongly illustrative of its truth. It was that of a youth, 14 years of age, one of a family of which three had died of hydrocephalus, and who himself was predisposed to the disease. This boy, after being confined to the house for a slight cold, began to complain of pain in one of the temples, with a quick and sharp pulse; for these he was briskly purged with temporary relief—the pain however returned with increased severity—restless nights—the pain darted through his head in twinges, and was greatly aggravated on moving—heat of head increased—he was bled to 12 oz. hair removed, and cold applications to head—again briskly purged—the pain of head still remaining, he was again bled—purging still kept up—the patient recovered.

In this case the inflammatory appearance of the blood drawn strengthened the suspicion that the case was one of inflammation within the head, in its first stage, a suspicion fully confirmed by the effects of treatment.

CASE OF DEATH BY POISONING WITH THE LEAVES OF ACONITE OR MONKSHOOD, PASSED OFF IN JEST FOR PARSLEY. By AL. RAMSAY, Surgeon. (Northern Journal of Medicine, June, 1844.)

AT about 11 a.m. a boy named Hanton, aged 14, on passing a garden in the parish of Murroes, looked over the wall, and asked a young man in the garden, "if he would give him some parsley;" to which it was answered, that he would get some new parsley, as being much better than the old kind. The young man accordingly gave Hanton a handful of green leaves, of which he ate some. In about two hours after he complained of a burning sensation in the mouth, throat, and stomach, and was very sick. For this his mother made him take a glass of whiskey. Some time after this he took a fit and fell on the ground—at 6 o'clock p.m. on his mother returning from her work, she found him lying across the bed, with his hands in his pockets, dead and stiffening. At the post-mortem the blood-vessels within the head were found enormously distended with dark-coloured fluid blood; upwards of a pound of which escaped from the skull and spinal canal. The stomach was empty, with a deep inflammatory blush over its whole internal surface and here and there patches of a darker colour—further dissection was not allowed.

Death appears in this case to have been caused by the apoplectic state of the brain, probably ending in asphyxia.

TINCTURE OF IODINE.

IN the Montreal Medical Gazette, (April 1, 1844,) Dr. Crawford draws the attention of the profession to the beneficial influence of Tincture of Iodine, (Magendie's form,) applied to variola, erysipelas, acute rheumatism, and neuralgia. During the last four years, erysipelas has been very prevalent in Montreal, and Dr. C. has applied the iodine with great apparent advantage. He does not exclude the use of constitutional remedies; but he has seen the most decided advantages result from the local application, where no internal means were employed. In variola he tried the comparative merits of the iodine and the nitrate of silver, but gives the preference to the former. This application is very manageable and very bearable.

ON THE MORAL TREATMENT OF INSANITY IN BETHLEM HOSPITAL. By R. WILLIS, M.D. (From the Medical Gazette, May 3.)

FROM the Report* we learn that, in the course of the year 1843, 284 patients—109 males, 175 females—were admitted into the Royal Hospital of Bethlem, and that the relative number of cures, progressively on the increase, has been greater in this than in any preceding year; being as high as 56 per cent. upon the admissions. The advantages of providing employment for the patients have been ascertained; and to this circumstance doubtless much of the success of the remedial measures must be ascribed. Besides the ordinary and incidental occupations, as gardening, cleansing the wards, &c. a range of workshops has been added. Experience has fully proved that no risk whatever is incurred in allowing the patients the use of the ordinary implements necessary in their respective

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* The General Report of the Royal Hospitals of Bridewell and Bethlem, and of the House of Occupations, for the year ending 31st December.

trades. On the female side, the matron has added to the old list of occupations straw-plaiting, bonnet-making, shirt-making, lace-making, and fancy work, with the best effect. Considerable additions have been made to the amusements of the patients on both sides of the Hospital. On the male side a library is in course of formation, and contains a selection of useful and entertaining works, which have been under the charge of a patient as librarian. Chess, draughts, cards, and backgammon, have long been allowed with very beneficial effects. On the female side, a piano-forte has been purchased, which is a source of great gratification both to those who can play, and to the other patients also. It was in Bethlem that the example was set in this country of liberating lunatics from personal restraint—in 1840 the weekly average number of patients under restraint was 13¼; in 1841 it was 9; and in 1842 and 1843, about 3. The attendants are aroused to increased vigilance by the necessity of closer attention; and living with and among the patients, gradually acquire their confidence, and become the directors of their occupations, and the companions of their amusements. By the new regulations, every patient has a tepid bath once a week, unless forbidden by the physician, and each patient has also two changes of body linen in the course of the week, instead of one as formerly. Considerable improvements have been made in the bedding, horse-hair and wool mattresses having been substituted for the old straw sack. Tea and coffee with sugar, now form part of the ordinary dietary of the hospital. This change has of itself entailed an additional expense of £400 per annum.

The necessity of seeking early advice in cases of insanity is well known to the profession, and its advantages are illustrated in the Report in the best of all ways, an appeal to the success of the remedial treatment at different periods of the disease. The chance of recovery is in exact proportion to the shortness of time during which the disease has existed; the probability of effecting a cure of the patient who is received within one month is generally just double that of restoring one who is received within two months from the commencement of the attack. From the table No. 8, we see that of the entire number of 284 patients, 106 were received within one month; but between one and three months the number is still greater, viz. 108. The great relative disproportion of cures effected in males and females, is somewhat startling. Whilst 103 of the 175 female patients are discharged cured within the year; of the 109 male patients no more than 56 are so discharged. The cause of this immense disproportion is well worthy of consideration. The total proportion of cures, and the general sanatory state of the hospital, it is most gratifying to observe, have gone on steadily improving. In the middle of the last century the cures amounted to only 33.20 per cent. annually, and the ratio of deaths was as high as 25.43. Last year (1843) the ratio of recoveries reached 56 per cent. and the deaths were only about 6 per cent.

Another point alluded to in the Report is the admission of pupils to the wards of Bethlem Hospital, as a school where they may acquire a competent knowledge of insanity.

On the Use of Oleum Tiglii, Externally applied, in Cases of Dysphonia, Cynanche Trachealis, &c. By S. Corp Ellis, M. D. (From the New York Journal of Medicine, May, 1844.)

In the case of a lady who for several weeks had been unable to speak, except in a faint whisper, Dr. Ellis directed her to rub three drops of croton oil along the trachea; a few hours after doing so, she had a sense of constriction about the upper part of the thorax, followed by "*two*" expectorations of sanguineous mucus. Shortly after, her voice became quite natural.

In a case of cynanche trachealis, in a child three years old, wherein the little patient lay in a comatose state, with his neck stretched back to its utmost extent, countenance livid, respiration nearly annihilated, Dr. Ellis ordered the following ointment: *scil.* twelve drops of croton oil with two drachms of lard. A portion, the size of a large pea, was directed to be gently rubbed along the course of the trachea every fifteen or twenty minutes—in about 15 minutes after the first application of the ointment, there was a visible improvement; the breathing became easier, and the countenance assumed a more natural appearance, coma began to disappear, and a quantity of tenacious mucus was forcibly ejected. The use of the ointment was continued at much longer intervals; the next day the membrane disappeared entirely, and the child got well. The same treatment was adopted in other cases with similar success.

ON THE USE OF MUSTARD IN THE CONVULSIONS OF CHILDREN. By CHAS. S. TRIPLER, M D.

DR. TRIPLER treated a case of convulsions from teething with mustard, which he employed for its emetic effects—he had previously employed antimony, sulphate of zinc, sulphate of copper and the usual emetics, but without being able to make any impression on the stomach. In a few minutes after its employment it arrested a fearful attack of convulsions, which had lasted five hours, and that without vomiting the patient for some time afterward—he afterwards used it in several other cases and with equal success. Its efficacy seemed to have no relation to its emetic properties.

(The Doctor should have stated the dose, mode of administration, &c.)—*Rev.*

MIDWIFERY.

A LIVING CHILD, 39 DAYS AFTER QUICKENING—147 DAYS AFTER CONCEPTION.

THIS curious case happened in the practice of Mr. C. Smythe, of Castle Douglas. A female, in her second pregnancy, and in the 147th day of utero-gestation, had a severe flooding, with rupture of the membranes. Labour did not take place till the next night, when a very small but well-formed fœtus was expelled, giving no other indication of life than a very feeble action of the heart, and a strong pulsation in the cord. By proper means, however, it was resuscitated, and cried as strongly as a child born at the full period of pregnancy. It weighed less than two pounds, and measured exactly twelve inches. It swallowed some nourishment, but died at twelve hours and a half after birth. The Membrana Pupillaris was entire—the testicles had not descended—the head well covered with hair. Some ecchymosis appeared on the back and on the hands before death. From peculiar circumstances, it was evident that the mother of the infant was perfectly correct in respect to dates.

There was clearly nothing in the organization of this child to prevent its growing to the age of maturity. We believe there is a case recorded in the Edinburgh Medical and Surgical Journal, where a premature fœtus of eighteen weeks was preserved by great care. In the present case, the period of utero-gestation extended to 21 weeks.—*Ed.*

INVERSIO ET EXTIRPATIO UTERI. (Prov. Med. Journ.)

THIS case occurred in the practice of Dr. J. G. Crosse, the talented surgeon of Norwich. A female had a bad delivery, of her first child, at the age of 29 years. Two years afterwards, January 14, 1843, she fell in labour with profuse hæmorrhage. The child was safely born, but she continued very weak, and almost pulseless for many hours. The placenta was delivered piecemeal. On using the catheter, 36 hours post partum, Dr. Crosse found the uterus inverted in the vagina, and used every effort, (in conjunction with the surgeon who had delivered her,) to replace the organ, but in vain. The tumour was firm and contracted. At the expiration of four days, the patient, by straining, forced the uterus through the labia into open day. The fundus had a ragged sloughy appearance. She continued in an alarming state, with the pulse at 120 or more. By various manipulations the tumour was supported, and the patient rendered more comfortable: but still the profuse mucous discharge was undermining the constitution, and, at the end of a month, Dr. C. determined to apply a ligature, for removal of the organ. On the 12th of February, therefore, the ligature (silk) was applied, and tightened two or three times a day. On the second day, the tumour was dark as a mulberry. Every day the ligature was tightened. On the sixth day, the sphacelated mass was removed by the knife below the ligature, which was, itself, removed on the eighth day. The health improved—the urine flowed spontaneously. By the 20th March, she had recovered, and was able to attend to her domestic occupations. It is now sixteen months since the operation, and no catamenia have, of course, appeared. She enjoys good health.

DR. RAMSBOTHAM'S REPORT ON THE ROYAL MATERNITY CHARITY. (From the Medical Gazette.)

DURING the year 1832, there were delivered in the eastern district of the Royal Maternity Charity, under the superintendence of Dr. Ramsbotham—

2,344 *women*—of which cases,

33 were twins—one in about every 71 cases: of these in 18 cases both heads presented; in 10 the presentations were head and breech, or inferior extremities—in 11 of those cases the children were both boys; in 11 both girls; and in 11 one girl and one boy. 1,197 were males—1,180 females—2,320 were presentations of some part of the head; of which 8 were face presentations—one in about every 297 births—51 were breech presentations, or of some part of the lower extremities—about one in every 46$\frac{3}{4}$ births—of these 16 were twins—six were transvere presentations—about one in every 396 children. In two the placenta was entirely, and in one partially, implanted over the os uteri—one in every 781$\frac{1}{2}$ cases—11 were complicated with dangerous hæmorrhage before delivery, *not* the result of placental presentations—about one in every 213 cases. In 25 cases the placenta was retained within the uterus either by atony, irregular contraction, or morbid adhesion—two women were delivered by craniotomy—one in every 1,172 cases, in both the pelvis was narrowed very much. In four cases premature labour was induced—one in every 586 cases—in three by the use of ergot—in each the pelvis was contracted. The time chosen was between the 7th and 8th month of pregnancy—13 women died within the puerperal month, or from puerperal causes—one in every 180 cases—2,287 children born living—89 still-born, about one in every 25 births.

Still-born Children.—28 were premature—13 were putrid, at or near the full time—six breech presentations.

During the year 1833 there were delivered 2,619 women—of these cases,

22 were twins—one in every 119 cases—1,372 males—1,269 females—2,437 head presentations—64 breech, or lower extremities—about one in every 41¼ births—of these 17 were twins. In 18 cases there was retention of the placenta—one in every 145½ cases—nine complicated with alarming hæmorrhage after expulsion of placenta, one in every 291 cases—three were delivered by craniotomy, one in every 873 cases. In three premature labour was induced—five were complicated with puerperal convulsions, about one in every 524 cases—16 women died either from puerperal causes, or within the puerperal month—one in about every 166 cases—2,556 children were born living—85 still-born.

Deaths.—Four from hæmorrhages—one from puerperal convulsions—two from fever—one from diffused pelvic inflammation nine days after delivery by craniotomy—two from pneumonia—five from phthisis.

During the year 1834, there were delivered 2,447 women—of which cases 26 were twins, about one in every 94 cases—1,285 were males—1,188 females—2,408 were head presentations—57 were breech or lower extremities—about one in every 43 births—eight were transverse—one in every 309 births—five had alarming accidental hæmorrhage, *not* the consequence of placental presentation—in 10 there was retention of placenta—6 had alarming hæmorrhage after placental expulsion—about one in 412 cases. Four were delivered by forceps—one in every 618½ cases. Two had puerperal convulsions—in two premature labour was induced from contracted pelvis—one in every 1,236½ cases—10 women died within the puerperal month, about one in 245. 2,408 children were born living—79 still-born, about one in every 31½ births.

Deaths.—Three from hæmorrhage—one from convulsions—one from rupture of uterus—one from hysteritis—two from cholera—one from universal dropsy.

During the year 1835, 2,311 women were delivered in the Eastern District of the Royal Maternity Charity—of these cases 16 were twins—in 8 cases of these both hands presented; in 4 the presentation was head and breech or inferior extremities, and in one case the breech and shoulder presented. In 3 of those cases both children were males; in 6 both were females; and in 7 they were of different sexes—1,229 children were males—1,098 females—2,437 were head presentations—57 were breech or some part of the lower extremities—7 were transverse presentations—all of some part of the upper extremities. In 3 the placenta was implanted over the os uteri, that is, about 1 in every 776 cases.

Seven were complicated with alarming accidental hæmorrhage before delivery, *not* the result of placental presentation, that is, about 1 in every 330 cases. In 8 the placenta was retained within the uterus, either by irregular contraction or atony of the uterine fibres, or by morbid adhesion to the uterus—all required the introduction of the hand—5 were complicated with alarming hæmorrhage after the natural expulsion of the placenta—1 in every 462 cases. One (a primary labour) was delivered by craniotomy. Three were delivered by the forceps—about 1 in 776 cases. Four were complicated with puerperal convulsions—about 1 in every 578 cases. In all these cases the attack occurred during labour. All were benefited by bleeding and purging—they all recovered.

In one case premature labour was induced from the woman's possessing a small pelvis. Seven women died either from puerperal causes, or within the puerperal month, about 1 in every 330 cases. 2,241 children were born living—86 born dead—being about 1 in every 27 births.

Of the Deaths.—1 from the effects of hæmorrhage eleven days after labour—there had been a draining of blood for some weeks previously—2 after delivery under shoulder presentation, both on the third day—one after version, and one from hysteritis after decapitation. One on the eighth day after labour from apoplexy originating in violent mental agitation six days after labour. Two from malignant puerperal fever prevalent at the time—1 from peritonitis 31 days after delivery.

Of Still-born Children.—26 were premature— 6 were putrid, at or nearly at

their full time—16 were breech presentations, at or nearly at full time—4 were transverse—with 5 the funis prolapsed—one was delivered by craniotomy—1 by the forceps—2 under placental presentation—2 were acephalous.

During the year 1838, there were delivered in the Eastern District of the Royal Maternity Charity, 2,136 women, of which cases 25 were twins, that is about 1 in 85½ cases—1,115 were males, 1,046 females—2,087 head presentations—68 were presentations of the breech, or some part of the lower extremities—about 1 in 32 births—6 were tranverse, all of the shoulder or of some part of the upper extremities. In 1 the placenta was implanted over the os uteri—the breech presenting above—6 were complicated with alarming hæmorrhage before delivery, *not* the result of placental presentation—1 in every 356 cases—all the women recovered. In 11 cases the placenta was retained either by atony, irregular contraction, or morbid adhesion, about 1 in every 194 cases. Four were complicated with alarming hæmorrhage after the placenta was born, 1 in every 534 cases. Three were delivered by the forceps. In 1 premature labour was induced artificially at 7½ months from the woman's having but a small pelvis—2 were complicated with rupture of the uterus—9 women died either from puerperal causes, or within the puerperal month—2,076 children were born alive—85 children were still-born.

Deaths.—1 from hæmorrhage speedily after the birth of twins from injudicious extraction of the placenta—1 two hours after removing an adherent placenta—1 from hysteritis, 1 from collapse—2 from ruptured uterus—1 from puerperal mania, and 2 from common fever.

Of the Still-born Children.—19 premature—12 putrid at or near full time—14 were presentations of the breech or lower extremities—3 transverse—1 was delivered with the forceps: it was putrid—4 under lingering labour—2 under a ruptured uterus—2 under a face presentation—1 under a placental presentation—2 after violent accidental hæmorrhage—with 5 the funis prolapsed by the side of the head—with 7 the funis prolapsed by the side of the breech—1 was acephalous. Twelve were at full time, not putrid, nor delivered by art.

CONTRIBUTIONS TO MIDWIFERY, No. V. ON THE INFLUENCE OF ERGOT OF RYE ON THE FŒTUS IN UTERO. By THOMAS EDWARD BEATTY, M.D., M.R.I.A. (Condensed from the Dublin Journal of Medical Science, May, 1844.)

VARIOUS and conflicting opinions have been entertained with respect to the influence of ergot of rye, as an obstetrical agent. Some very high authorities have declared that it is totally inefficient in exciting uterine action, under any circumstances. Other authorities, equally respectable, attribute the most energetic effects to its use, denouncing it as too violent an agent for obstetrical purposes, and as being injurious to the child at all times, and sometimes both to mother and child. A third class of authorities maintain an opinion equally at variance with the truth as the two preceding, viz. that the ergot may be given always with advantage, the safety of mother or child being never endangered. With respect to the first opinion, scil. that of its total inefficiency under any circumstances, Dr. Beatty says that two causes of such a failure may be suggested: 1, the employment of inadequate doses of the drug; 2, the inferior quality of that which was employed—the second cause appears the more probable, as there is scarcely any medicine that spoils more rapidly, or that requires more care in its preservation than the ergot.

The second opinion, viz. that the ergot of rye is at all times destructive to the child, arose from the employment of the medicine at improper times, as in cases of difficult labour arising from mechanical opposition to the exit of the child;

in such a case the destruction of the child is almost sure to follow from the delay which necessarily occurs between the administration of the dose and the expulsion of the head. The third opinion, viz. that the ergot may be always given with advantage, is far too sweeping, and one likely to do mischief.

Dr. Beatty considers none of these opinions correct, but that the truth lies between them. The medicine, when fresh, and properly preserved, is one of great energy, and influences both mother and child. It requires to be used with great discretion; for, while it will in one case effect the delivery of a living child, it will, in another case, destroy the life of the child before birth, or operate so injuriously on it, as to cause its death shortly after birth, or produce a peculiarly dangerous effect on its nervous system. The difference of effect on the infant depends on the length of time intervening between the administration of the dose and the conclusion of the labour—if this takes place quickly, no harm is done to the child; if it be alive when the medicine is taken, it will be born so; but if a delay of even two hours should occur, the probability is, the child will be still-born. He here gives some cases wherein the duration of the labour after the adminstration of the medicine varied from a quarter of an hour to two hours, and in all the child was born without any unpleasant consequences.

In the cases which proved fatal, the condition of the infants was very unlike that of still-born children delivered under ordinary circumstances, and when no ergot had been administered to the mother. *The distinguishing characteristics are, the general lividity of the surface, the universal rigidity of the muscular system, producing the stiffened limbs and clenched hands in those infants in whom life was extinguished; and the remarkable kind of alternating spasm and palsy which supervened in those that were resuscitated.*

That the fœtus in utero may be influenced by the circulating fluids of the mother, is proved by the well-known fact of the communication of syphilis, small-pox, &c. to the unborn child.

Dr. B. here notices some of the epidemics of spasmodic ergotism, caused by eating bread made of rye containing a large portion of ergot, which visited different parts of the Continent during the last century. The patients were attacked with spasms and convulsions, accompanied with violent pains. In some instances the patients became lethargic, and when recovering from such state gave respectively signs of stupidity, intoxication, and extreme lassitude, after which the fit subsided for a time. There generally remained vertigo, *tinnitus aurium*, *nebulæ oculorum*, rigidity of the limbs, and great feebleness. It has been ascertained by actual experiment, that the blood of the mother becomes impregnated with the noxious properties of the ergot. In this way we can comprehend how the influence of the drug may be extended from the mother to the child. It may seem strange that a medicine taken in the usual medicinal doses, and with apparent impunity, by the mother, shall act injuriously on the child. The fact is, the system of the mother is very generally acted on by the ergot, though not injuriously, as is shown by the great depression in the pulse, caused by the drug. We must also recollect the great susceptibility of infants to the action of narcotics.

From the preceding observations, Dr. Beatty comes to the conclusion, that the administration of ergot to a woman in labour is attended with danger to the child, whenever a time sufficient for the absorption and transmission of its noxious properties elapses before the child is born. The *degree* of effect produced differs with the time that elapses between the exhibition of the dose and the birth of the child. Hence, the ergot should never be given in any case where there is a likelihood of the labour lasting more than two hours after its administration, except when it may be employed to save the mother's life—and, 2dly, if delivery is delayed to two hours, we should resort to artificial assistance to save the life of the child.

Miscellanies.

THE NAVAL LUNATICS AT HASLAR.

In no situation has the humane system of treating lunatics been carried out with greater vigour than in the Royal Naval Hospital at Haslar, and nowhere with more satisfactory and gratifying results. So soon as the happy consequences of Dr. Conolly's new system at Hanwell came to the knowledge of the Director-General of the Medical Department of the Navy, Sir William Burnett, he determined on introducing it into the Government Asylum at Haslar; and he had the good fortune to find in one of the officers of his own service, Dr. Anderson, a man not merely fully convinced of its immense superiority, but practically conversant with its details. For some time previously to his appointment, Dr. Anderson had been the resident physician of the well-known private institution at Denham Park, near Uxbridge, where the non-restraint system was and is carried to its full extent. At the period of Dr. Anderson's appointment, the naval lunatics, both men and officers, were treated pretty much in the old plan, although Sir William Burnett had made strenuous efforts for the introduction of the more rational system. Dr. Anderson's arrival at Haslar was the epoch of a complete reform; and as his views coincided in every respect with those of Sir William Burnett, and as that officer had the entire confidence of the Lords of the Admiralty, (who entered into the question with a degree of zeal and liberality highly honourable to themselves), every projected improvement was carried into effect with true nautical energy. The change for the better was the more remarkable for its rapidity. Those who had known the asylum under the old rule could scarcely credit their senses when witnessing, after a few months, the new discipline of the place and the new habits and dispositions of the inmates. Chains, straps, corsets, imprisonment—all vanished at the will of the Superintendent;—and the false fears of the attendants, and much of the gloom and misery of the patients, soon followed. This altered condition of things has now existed about two years, and not a single accident has occurred to checker the satisfaction of those who brought it about.

Among the happy changes introduced by Dr. Anderson was one suggested by Sir William Burnett, which does great credit to his humanity, and has been a source of immense gratification to the patients. The airing-court attached to the asylum being at the back of the hospital, which stands on flat ground, was necessarily deprived of all prospect of the surrounding country, and even of the neighbouring sea. To remedy this defect, it was determined to erect a lofty mound in the centre of the airing-ground; and this was no sooner suggested than it was carried into effect by the lunatics themselves, under the direction of their benevolent superintendent. This mound is of large dimensions, solidly and beautifully constructed, and furnished with a gravel-walk leading by a gentle slope to the summit. It is sufficiently lofty to command a very extensive and beautiful view of the Isle of Wight as far as Cowes and St. Helen's, the towns of Portsmouth and Portsea, great part of Portsmouth harbour, all Spithead, and the neighbouring sea, with the ever-busy and ever-shifting panorama of masts and sails and flags that crowd that nautical thoroughfare. It is impossible to contemplate, without emotion, the happy influence that such a change as this must have had on the feelings of the sailors. The famous shout of Xenophon's soldiers, "The sea! the sea!" seems again realized to the imagination when we think of the feelings that may have stirred the withered souls of those solitary men, when, after years of imprisonment within gloomy walls, they were again

as it were, restored to their old element. How much they prize the privilege thus accorded by the purest and most refined humanity, is proved by the continued eagerness displayed by them in climbing this "sacred mount." A similar elevation is now being built in the grounds of the officers' department.

A still bolder step in the progress of the rational and humane treatment of these poor fellows, and, we doubt not, in the cure of their bruised and broken minds,—an improvement which strikes us almost as much by its happy boldness as by its genuine benevolence,—has been more recently introduced. A boat has been granted to them by the Admiralty; and in this they may now be seen pulling and steering their fearless and noble-hearted friend and master, Dr. Anderson, not only through Portsmouth harbour, but actually out to sea, calmly enjoying the cooling breeze, or busy in their long-forgotten pastime of fishing.

But the account of this affecting experiment, and a few more interesting particulars of the proceedings of the Naval Asylum, we are enabled, through the kindness of Sir William Burnett, to give in Dr. Anderson's own words: and we cannot present them to our readers without offering to that gentleman the tribute of our respect and gratitude for his enlightened and noble exertions.

Extract from Dr. Anderson's Report, Midsummer Quarter, 1843.—"The calm and orderly conduct which now prevails throughout the asylum, together with the cleanly, and I may add industrious, habits of a large proportion of the patients, render the duties of the attendants and nurses comparatively easy. For the accomplishment of these desirable ends, I have endeavoured to carry out the excellent precepts laid down by Dr. Conolly of Hanwell; and in order to point out clearly the principles by which the medical officers themselves are guided, and that they constantly inculcate on the attendants and nurses, I cannot do better than quote the following paragraph from one of that talented physician's Reports. 'To endeavour to gain and preserve the confidence of each patient; to create or maintain a character of kindness and tranquillity throughout the asylum; to forbid the exercise of violence, threats, or deception; to be careful of their diet and clothing; to occupy and amuse them; to secure their cheerfulness or content by day and comfortable rest at night; to consider all their weakness and infirmities; and to pay a general regard to whatever may act favourably on the mind and body.' These have been and continue to be the principles on which our moral management is based, and the fruits of this mild and rational treatment are now clearly developed in the altered condition of our inmates, whose conduct for many months past has very generally been characterized by a constant and orderly demeanour, which I am persuaded no coercive measures could ever have produced. The means of recreation and exercise which have wisely been extended to the patients in allowing them to walk into the surrounding country, continue to be a source of great delight to many; and nothing is felt as a more severe punishment than this salutary freedom being withheld from any of those who are usually in the habit of joining the party in these country excursions. The cheerful aspect of the new airing-grounds with the mound in the centre, has been very much increased by the late alterations; and being now thrown open in fine weather, have become the daily resort of a large proportion of the patients. The inducement thus offered to the indolent and melancholic to take a view of Spithead, Portsmouth harbour, Isle of Wight, and the surrounding country, is found not only to form the means of amusement and exercise, but, it may almost be said, some alleviation of their malady.

"The religious services continue to be regularly performed in the asylum morning and evening; and it is rather surprising to find between sixty and seventy insane persons assembled together for the purpose of divine worship without the occurrence of any disturbance, except on very rare occasions. Upwards of twenty attend the service in the chapel every Sunday; and their con-

duct during divine worship has been uniformly marked by the same decorum as the sane part of the congregation.

"In consequence of directions from the Inspector-General, the dress for the seamen and marines was changed at Easter, the whole of the lunatic patients being now supplied with blue clothing instead of the brown formerly worn. This change to their favourite colour has given the seamen great satisfaction; and no doubt has, in some of the number, brought back to their recollection early and pleasing associations.

"The many alterations, sanctioned and promoted by the Inspector-General, which have taken place generally throughout the asylum during the last twelve months, have contributed in no small degree to the improved condition of the patients; and when the works now in progress are completed, the whole face of the establishment will be changed from its former gloomy and prison-like appearance to a cheerful place of residence, which will neither be calculated to create alarm in the timid and suspicious, nor excite the rage of the more furious madman."

Extract from Dr. Anderson's Report; Michaelmas Quarter, 1843.—"The Lords of the Admiralty have very recently, on the recommendation of Sir William Burnett, furnished a boat for the use of the lunatic patients; and since it has been received from the dockyard they have had many rowing and several sailing excursions, both in the harbour and out to Spithead. Upwards of twenty of the patients have, at different times, joined in this amusement; and on every occasion they have behaved in the most quiet and orderly manner, and can now, after the practice of some weeks, manage the boat either under sail or in rowing with perfect ease and dexterity. I shall not attempt to describe the enjoyment which many have felt by being again permitted to embark on their favourite element, nor the pleasure with which they look forward to these water-excursions. Some of those who have proved to be our best boatmen have been confined within the narrow limits of the asylum airing-grounds for upwards of twenty years; but notwithstanding this protracted period of seclusion, their new occupation appears to have roused mental energies which to the common observer were nearly extinct, and to have brought back to their enfeebled minds old and pleasing associations which have been productive of the most beneficial results. I have no hesitation in stating, that of all the remedial agents with which we have during the last eighteen months been so liberally supplied, the use of the boat for many of our patients is, beyond all comparison, the most valuable of any; and my anticipations, sanguine as they were, as to the benefits likely to result from that kind of exercise and recreation on the mind of the lunatic sailor, have been most fully and completely realized.

"The Inspector-General has also directed a supply of fishing lines and hooks to be furnished, and the patients have frequently, during the last month, been successfully occupied in fishing, which is also a source of great enjoyment and interest to many. Mr. * * * affords, among many others, a striking example of the salutary influence resulting from the new occupation. This officer has been in the asylum for eight years, and during the last six has very rarely spoken to any one, and appeared to take little or no notice of surrounding objects. The various means that were had recourse to with the view of rousing him from his apathetic state proved fruitless. He, in common with others, was furnished with a fishing line; and on his first trip to the buoy of the Boyne, which is our principal fishing ground, caught nine whiting-pout, and enjoyed the sport as intensely as any one in the boat, baiting his hooks himself, and making observations on his success. On our way home he took all the fish that were caught out of the basket and *counted them aloud*, much to the astonishment of Mr. Steward and myself, as well as to others who had scarcely heard the sound of his voice for several years. It is a pleasing part of my duty to be thus enabled

to report the complete success of a measure which, in the estimation of many, was fraught with so much personal danger to the lunatic, by affording him an easy opportunity of carrying any suicidal propensity into effect; but the truth is, that in well-regulated establishments for the reception of the insane, the tendency to self-destruction is nearly, if not altogether, as rare as amongst those who are considered the sane part of the community.

"It is scarcely necessary to state, that no bodily restraint has been had recourse to; but, as was explained to the Inspector-General during his recent official visit, it has frequently happened that for many days in succession not a single individual has been placed in temporary seclusion, thus clearly demonstrating the many advantages resulting from a mild and conciliatory system of management as compared with harsh and coercive measures.

"In conclusion, I may be permitted to state the extreme gratification I have felt in witnessing the progressive but steady improvement in the general demeanour, the cleanly habits, and the contented appearance of many whose condition, twelve months ago, scarcely held out, under any treatment, the prospect of such cheering results."

We think that no one, after reading the foregoing account, will hesitate to place the name of ANDERSON high on the list of those noblest philanthropists who are proud to own Dr. Conolly as their chief. Through his exertions and those of Sir William Burnett, we are justified in saying of HASLAR what Professor Marx so finely said of HANWELL; and we think the Professor's words, which we once proposed as a motto for Hanwell, may with full propriety be now inscribed on the walls of Haslar:—"HIER WIRD DURCH DIE THAT BEWIESEN WAS DER MENSCH UBER DEN MENSCHEN DURCH DAS MENSCHLICHE VERMAG." —*From No. XXXIII. of the British and Foreign Medical Review.*

MEDICAL ETIQUETTE.

DR. Carter, of Montreal, has related a case in which there was a decided breach of Medical Etiquette, and common prudence, too, provided the statement be correct. A young lady had had more than one attack of ileo-cœcal inflammation, swelling, and accumulation of fæces. These symptoms were subdued by bleeding, purging, &c. by which large quantities of scybala were evacuated. From certain symptoms that accompanied and followed these attacks, Dr. Carter believed that suppuration had, at one time, occurred. Of this we are not quite satisfied; but there was danger enough in these attacks to authorize the means employed. When the lady was convalescent, some of her friends suggested a consultation, which was agreed to by Dr. Carter. It appears that—

"Dr. Campbell, finding no abscess existing, entered into an argument *at the bed-side of the patient*, and maintained that it could never have existed." If this be a correct version of the affair, we must say that Dr. Campbell acted very indelicately and injudiciously. In the first place, the consultant who is called in to a case, should never contradict the statements, or even the opinions of the previous attendant before any of the patient's relatives, or the patient himself, even if he differs from his colleague. In the second place, he has no right to give a positive opinion of the past, but only of the present condition of a case. In the third place, he injures the profession, as well as his colleague—ay, and himself in the end, by remarks that tend to lead the patient or friends to suppose that any error has been committed either in practice or diagnosis.

We grieve to say, that these imprudent and illiberal, as well as unwise censures on each other, are too often indulged in by medical men, by which conduct, the public are naturally led to the conclusion that physic is a farce, as no two practitioners can agree as to the nature or treatment of a malady! This is

the plague-spot on medicine. You cannot open a page in any of the periodicals without reading the most violent discussions, recriminations, and accusations bandied about between one practitioner and another! How can the public respect us, when we cannot respect each other?

Vivisection.—Letter to the Earl of Carnarvon. From Richard Jameson, Esq.

It appears that Lord Caernarvon is President of the "Society for Preventing Cruelty to Animals," and, as such, has been holding forth against the high crimes and misdemeanours of the medical profession for torturing animals to death in their physiological experiments! A certain Rev. J. Styles has gained a prize of £100 for the best Essay on this Pseudo-philanthropy, and has informed the public—"that every surgeon's apprentice thinks himself entitled to find his way into the arcana of Nature by scalping cats and rabbits *to see where their brains lie.*"

This is not merely a "*clerical* error," as the lawyers say, but a clerical lie. Admitting, for the sake of argument, that the medical profession should exhibit, among its numerous ranks, an instance or two of such senseless cruelty, is that any reason for using the sweeping assertion that "*every surgeon's apprentice*," &c. &c. Does the ecclesiastical world never exhibit a black sheep?—If, because a Bishop was seen running down St. James's-street with his "*tights*" about his heels, we were to assert that every clergyman was a ————, what would this mendacious John Styles say to the accusation?

The only apology that can be offered for this Doctor of Divinity is, that he is a credulous ass. Thus, to astonish the Gaube-Mouches among his auditors, he tells them that oxen are driven many days without food, with "their hoofs worn off, and on *bleeding stumps!!*" Why Baron Munchausen was nothing to this D. D.! Can he be so silly too as to suppose that a grazier or a butcher would starve his cattle for days together, and thus so reduce their weight and condition as to suffer a considerable loss in the sale? This sapient philosopher tells us that the Hippopotamus, whose side would resist a musket bullet, has recourse to phlebotomy, when sick, by running against the point of a reed!! By way of contrast to the surgeons' apprentices, he informs us that predaceous animals destroy their victims with the least possible amount of pain, and that it is usually in the night time, when they are asleep, that they pounce on their prey, murdering them before they have time to reflect on their own danger! What tender-hearted creatures these tigers, hyenas, cats, and owls are! It is not because they can surprise their prey more easily in the dark than in the light, that they prowl about after sunset, but entirely to save the deer, goats, mice, and sparrows, the pain of being slaughtered! See how the cat domesticated among our amiable tabbies, fondles and soothes its victim the mouse, before it gives the final coup de grace!

But look at man himself. Leaving aside the wars, murders, and persecutions of all ages, see how many thousands of animals are annually slaughtered in the most cruel manner, by your nobility and gentry, while hunting the stag, the hare, &c. and that for mere sport, and without any regard to science or ultimate utility. The subject is extremely well handled by Mr. Jameson, and does great credit to his head and his heart. We strongly recommend its perusal.

INSTINCT AND REASON.

THE distinction between these two attributes has afforded Dr. Strang, of Portsmouth, the subject for a lecture before the Philosophical and Literary Society of that place, in last October. Considering that the distinction in question has occupied the most able pens at various periods, Dr. Strang has thrown as much novelty and interest into the investigation as could possibly be expected. The broad general distinction between the two gifts of Nature or Nature's God, is visible and appreciable enough by all; but where the two attributes touch or become dovetailed, as it were, there is no small difficulty in saying where instinct ceases and reason takes the command. Lord Bacon considered that the faculties of man differed from those of animals, not only in *degree*, but in *kind*; whereas a modern Lord—Lord Brougham—looks on the difference as more in *degree*, resulting from the greater development of the human mind or its material organ. But man exhibits both instinct and reason. As an infant, the act of sucking is purely instinctive; and so the bee, when forming its hexagonal cells, acts without any reflection, but by an impulse which it cannot resist. Reason is very different. It adapts means to ends, and *varies* them according to circumstances.

"Thus we never find two men work precisely alike—nor does the same man at all times evince the same degree of skill—but the bee made its cells as perfect 6000 years ago as it does at the present day, and all bees make them precisely in the same form."

We cannot entirely agree with our author respecting the operations of the beaver. That most sagacious animal constructs his domicil very differently, according to the nature of the locality; and when we find one party detached to the woods to cut timber—another employed in dragging it to the river or pond—a third, sharpening the stakes—a fourth driving them into the mud, and so on, with most admirable division of labour, we can hardly deny him a degree, and no small degree, of reason. We cannot coincide with Dr. Strang in his severe censures on those physiologists who have had recourse to vivisection for the purpose of ascertaining vital and animal functions. But that by the way. Dr. S. gives a great many instances of the reasoning powers in animals, especially the dog, some of which, if true, can leave no doubt that this boasted prerogative of man is shared in no small degree by the elephant, the dog, and other creatures called irrational.

There are many characteristic distinctions, however, between the human race and the brute creation. Instinct is stationary—reason is progressive. Man knows that he must die—animals are free from that melancholy reflection. Animals are tee-totallers—man is a drinker of intoxicating materials. Animals have neither hopes nor fears of a future state of existence—man has both. Animals rarely kill more game than they can eat—man kills twenty times as much as he can devour. Instinct never prompts to the worship of a Divine Being—reason prompts to the adoration of numerous gods under various forms. But there are various other distinctions, which we need not notice.

"We may conclude, then, that the functions which are simply vital and organic, and which are therefore necessary for even the lowest grade of sensitive existence, are possessed equally by all animals. In the distribution of the functions of animal life, in the degree of sensibility, and the power of voluntary motion, we observe a greater inequality in the various classes of animal existence. In neither of these, the organic and animal functions, does man obtain any superiority—he may even be inferior in these respects to many other animals. In strength of muscle or acuteness of sensation, he is in fact surpassed by many of them; but he is the *sole* possessor of those mental faculties that are the source of that vast superiority he enjoys over all other creatures here, and which must for ever separate him from them all."

Dr. Strang's lecture is very creditable to his attainments and good sense, and appears to have been extremely well adapted to the audience before which it was delivered.

FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS.

THE Committee of "The Medical Protection Assembly," so well known to all readers of the Medical Periodical Press, have addressed the following remonstrance to the Council of the College of Surgeons in reference to the election of Fellows vested in them.

An Address from the Members of the Royal College of Surgeons of England to the Council of that College.

Gentlemen,—In addressing you, at this vitally important juncture, as the governing body of the College of which we are members, we shall not offer to you either the language of remonstrance or complaint; but we feel it to be a duty which we alike owe to the public, to the Crown, to the members of the medical profession, and to ourselves, to remind you of the power which you have authority to exercise under the provisions of the Charter which her gracious Majesty granted to our College in the month of September, 1843.

In the *second* section of that royal decree you were empowered to elect, within three months from the date of the sign manual of the Sovereign, not less than two hundred and fifty, nor more than three hundred MEMBERS, who should, from thenceforth, become FELLOWS of our College. In the same section it is provided, that *after* the expiration of three calendar months, and *within one year* from the date of the Charter, "any *other persons* whom the Council shall *think fit and appoint*, shall be FELLOWS of the College."

We also request your attention to the *fourth* section of the said Charter, which we here present to your notice verbatim:—

"4. That it shall also be lawful for the Council of the said College, at any time or times after the expiration of the said three calendar months, and before the expiration of one year from the date hereof, by diploma or diplomas under the seal of the said College, and in such form as the said Council shall think fit, and without any fee, to appoint any other person or persons (being a member or members of the said College) to be a Fellow or Fellows of the said Royal College of Surgeons of England."

You have already selected, within the period prescribed by law, the three hundred members of our body, and created them FELLOWS of the College.

On the principles which have guided or regulated your choice in this selection we offer no comment; but we consider it to be our duty to remind you that *additional* creations of FELLOWS have not been announced by you, although *four* months have elapsed since the 14th of December last, (when the first three months of your power to elect fellows terminated,) and that there remain but five months of the entire term which the Charter has prescribed for the further exercise of your authority. Hence it has become our imperative duty to remind you of the power with which you are invested by the Crown.

The members of our College amount to upwards of ten thousand in number. For aught we know to the contrary, only three hundred of us have, up to this time, been created Fellows by you, under the provisions of the new Charter. This is rather an alarming result of a seven months' exercise of your creative power.

The *Fellows*, be it remembered, are to be the future *electors* of the Council.

The privilege of *election* is a right which we, the members, have endeavoured to obtain from the legislature during nearly twenty years. Instead of conferring it upon *us*, directly, the Crown has invested *you* with full authority to enfranchise

us. The Crown rightly judged, perhaps, that *you*, who granted us our diplomas, must be better acquainted with our characters and capabilities than could be any body of unprofessional persons with whom we had never been intimately associated.

The fact, in truth, cannot be concealed, that *you* have authority to enfranchise *every member of the College who resides within the limits of this kingdom.* You might even bestow the fellowship on members who live beyond those limits. For the proofs of these allegations we refer to the sections already quoted, in which it is distinctly stated that it shall be lawful for the Council, within twelve months from the date of the Charter (14th September, 1843,) to appoint, without fee, "any other person or persons, being a member of the said College, to be a Fellow or Fellows of the said Royal College of Surgeons of England."

These words admit not of two interpretations. They possess an obvious, a perfectly unequivocal meaning. The authority to create *thousands* of Fellows from among the existing members of the College is by law vested *with you*, the Council.

Thus, the power to enfranchise us, to bestow upon us the right of electing the future Councillors of the College, *now exists with you.* It will *expire* on the 14th of September next. We think, then, that we are justified in demanding at your hands that it shall be exercised promptly, comprehensively, liberally, justly; and we venture to express an anxious hope that the employment of it, by you, will not be tainted either by prejudices or dishonest partialities.

We refer to this new *Charter*, which has invested you with so much authority, as to a highly important sign in the present crisis of our affairs. We respectfully remind you, that as *you* are now empowered by law to bestow upon us the right of enfranchisement, so upon *you* will fall the whole weight, responsibility and disgrace, which would attend an unconstitutional, illiberal, unjust exercise of the unusual functions with which you have been invested by the Crown. We have the honour to be, Gentlemen, yours, &c. &c.

This has been followed by a "Statement," on the part of the Council of the College, which we also subjoin.

Statement relating to the Charter lately granted by Her Majesty to the Royal College of Surgeons of England.

The Council of the Royal College of Surgeons of England feel that the time is arrived when it is proper for them to offer some observations, in explanation of the principal changes which the Charter, lately granted by her Majesty, has occasioned in the constitution of the College, and on the ultimate effect which these changes may be expected to produce in the condition of the Surgical profession. They avail themselves of the opportunity thus afforded to state the principles on which they have hitherto acted, and those on which they propose to act hereafter in the exercise of the new duties which this Charter has imposed upon them.

The By-laws which may hereafter be made for the government of the College will not be valid until approved of by the Crown.

The Members of the Council will be elected, not for life, but for a limited term of years.

When vacancies occur in the Council they will be supplied, not by the Council, but by the new body of Fellows, who will elect the new Members from among themselves.

Fellows of the College, who are not Members of the Council, will be equally eligible to the Court of Examiners with those who are; and future Examiners will hold their office only during the pleasure of the Council.

One object of Her Majesty's Advisers, in establishing the Class of Fellows, was to create a sufficient Constituency for the election of the Council. The same end might have been attained by simpler means, such as giving the franchise to members of a certain standing in the College; but another and expressly avowed

purpose was to promote a spirit of emulation among Surgeons, to afford additional inducements to exertion in the cultivation of science, and thus to increase the utility and elevate the character of the Surgical profession. After the expiration of one year from the date of the Charter, no one will be admitted into the rank of Fellows, until he has undergone a strict and lengthened examination, not only in practical surgery, but also in the collateral sciences. They who aspire to become Fellows, without having been previously Members of the College, will be required to have gone through an extended course of professional study in Hospitals and Schools, and to be at least twenty-five years of age. But the Fellowship will not be limited to Candidates of this description; and they who, not having had the same advantages of education, have been admitted as members at twenty-one years of age, may, after having been engaged in Practice for a certain number of years, represent to the Council that they have continued to study their profession as a science, and claim on these grounds to be examined for the Fellowship. Thus any individual, however limited his means of improvement may have been in early life, may raise himself by his own industry and talents to the same rank in the College with those who were in the first instance more fortunately situated. No one who desires to attain the Fellowship can complain that it is not within his reach, or that he is prevented from becoming an Elector, or a Member of the Council, or of the Court of Examiners.

Candidates for the Fellowship at twenty-five years of age, will have had the opportunity of obtaining a liberal general education, previously to entering on the studies peculiar to their profession; and it is reasonable to expect that the example of such well-educated persons will influence those, whose preliminary education has been imperfect, to supply the deficiency by devoting to the acquirement of various knowledge and the general cultivation of the mind, a portion of the leisure which falls to the lot of every young practitioner.

The course to be pursued in the future admission of Fellows is sufficiently obvious; but the new Charter imposed upon the Council another task of much greater difficulty, that of selecting, from among the many thousand Members of the College, a limited number of individuals to be nominated as Fellows in the first instance, so as to form an immediate constituency for the future election of Members of the Council.

The following provisions of the Charter, on this subject, give to the Council the absolute power of nomination, without conferring on any description of Members the right to be so nominated.

"The Council of the said College, with all convenient speed after the date of these Our Letters Patent, and before the expiration of three calendar months from the date hereof, and in such manner as the said Council shall deem best, shall elect to be Fellows of the said College any such number of persons, being Members of the said College, and not being in the whole less than 250 nor more than 300, as the said Council shall think proper."

"It shall also be lawful for the Council of the said College, at any time or times, after the expiration of the said three calendar months, and before the expiration of one year from the date hereof, by diploma or diplomas under the seal of the said College, and in such form as the said Council shall think fit, and without any fee, to appoint any other person or persons, being a Member or Members of the said College, to be a Fellow or Fellows of the said Royal College of Surgeons of England."

When these passages of the Charter are considered in reference to each other, and in combination with the circumstances that the nomination of Fellows by the Council is only a temporary expedient, designed to provide, in the first instance, that Constituency which will be supplied hereafter by Fellows admitted on examination, it will be obvious that the framers of the Charter did not intend that the Fellows to be thus nominated should greatly exceed the number of three hundred.

The Council entered on the duty assigned to them by these provisions of the Charter with a full sense of its invidious nature. They were aware that of those, not included in the list of Fellows, a considerable number would feel and express dissatisfaction. But they have done what was required of them to the best of their ability, and have made the selection altogether on public grounds, without favour or prejudice, and uninfluenced by private motives. The following statement will sufficiently explain the principles on which they have acted.

The great majority of the Members of this College are less engaged in the practice of Surgery than in that of Medicine, Midwifery, and Pharmacy, and many of them have arrived at well-deserved eminence in these latter departments of the Medical profession. But the Council, keeping in view the objects for which the College was especially established, have felt it their duty, in the nomination of Fellows, to regard chiefly the qualifications of Members as practitioners in Surgery, or as improvers of those sciences which tend to its advancement.

1. In accordance with this principle, they placed in the list of Fellows, the Surgeons of all the Hospitals in England and Wales which are recognised by them as schools of Surgery; and they did so under the conviction that the Surgeons of large Hospitals have the best opportunity of experience in Surgery, and that they are the persons principally consulted in private practice, and referred to by other practitioners, in surgical cases.

2. But they were aware that in several parts of the kingdom there are Members of the College having considerable reputation as Surgeons, and called into consultation in surgical cases by the practitioners in their neighbourhood, although they have no connexion with Hospitals; and the Council thought it right to place the most eminent of such persons on the list of Fellows. In executing this part of their duties great circumspection was required, lest improper names should be inserted and proper ones omitted. In this respect the list is incomplete, there being individuals of this class whose claims are still under consideration.

3. Not being well acquainted with the qualifications of Military and Naval Surgeons, and being at the same time desirous of doing justice to them, the Council applied for assistance to the heads of their respective departments; and many of the names included in the schedule of Fellows are the result of this application.

4. There are in London several practitioners in Surgery, who, though not connected with Hospitals, were considered eligible to the Council under the former Charter and according to former usages, and the Council therefore thought that they ought to be admitted to the Fellowship. Many of these gentlemen are well known and much esteemed by the profession; and the question was, not whether they should be elevated to a new position, but whether they should be displaced from one which they had previously occupied.

5. Some individuals have been placed on the list of Fellows from having distinguished themselves in cultivating the kindred sciences of Anatomy, Physiology, and Natural History. The Council cannot but regard such persons as ornaments of the College, and it will be gratifying to them to find others of the same class who may be added to the list.

6. Other names have been inserted for special reasons, being principally those of Teachers who had been recognised by former acts of the Council, or of persons holding important public offices. Among the latter are four Senators of the University of London.

The Council are empowered to nominate an additional number of Fellows before the expiration of the first year from the date of the Charter. This will enable them to supply the deficiences of the former list, in anticipation of which it is evident that this clause was introduced. In the future nomination of Fellows, the Council see no reason why they should depart from the general principles on which they have hitherto acted; though they will make it their object

to omit the name of no individual who is held in esteem by the other Members of the College for his surgical experience and scientific attainments. For those who are not yet so distinguished, there is an honourable method of obtaining the Fellowship by examination.

In conclusion, the Council take the liberty of observing, that no alteration in the Charter, nor any legislative enactment, can materially change the condition of those who have been for some time established in practice. In the Medical profession each individual makes his own place in society; intellect, knowledge and integrity being equally appreciated and respected in every grade and station. If the changes introduced by the present Charter are to have the effect of elevating the character of the Surgical profession generally, it will be in the next rather than in the present generation; and if the elder practitioners are interested in these changes, it is less on their own account, than on that of their sons and successors.

By order of the Council,
EDMUND BELFOUR,
Secretary.

Lincoln's Inn Fields, May 25, 1844.

Setting aside the justice or injustice, propriety or impropriety of the Charter itself, and discussing merely the question raised in the Address of the Medical Protection Assembly, there cannot be a doubt that the Council of the College has the best of the argument. It must be clear to every one, from the limitation of the numbers of the first batch of Fellows, that the Crown did not design the body to be numerous. If any inference is to be deduced from the general spirit of the Charter, it points, too, the same way. Its aim is obviously to create a small and select body, large enough to comprise the distinguished members of the College, but not so large as to be held cheap, from the facilities of belonging to it. This we say, special pleading apart, is clearly the intention of the framers of the Charter, and the Council unanswerably appeal to it.

We have already stated that we are not now discussing the merits or demerits of the Charter itself. It might or it might not have been a better one. But it is "a fact," and as such we take it. Nor are we discussing the principles which have guided the Council in the selection of the "Fellows." The "Protection Assembly" waive an examination of those principles, and so do we. We content ourselves with one observation—that *if* there are to be Fellows at all, the Fellowship ought not to be made contemptible by being swamped with numbers—and that the power vested in the Council, being in its nature highly responsible and equally invidious, ought to be exercised with strict impartiality, untainted by the suspicion of sinister influence, jobbing, and class-feeling.

STATEMENT OF THE SOCIETY OF APOTHECARIES, &c.

THIS is in the form of a Letter to Sir James Graham, from the Company, setting forth what they have done during the last thirty years, in the way of improving the education of the general practitioner. They combat the objection to an examination being entrusted to a Court of his own class, instead of one of a higher grade—as that of the College of Surgeons, or of Physicians, by showing the Curriculum which they now enforce, and the qualifications they now require in the candidate, as compared with the regulations which they first enacted in 1815. The contrast is indeed most striking, and shows the rapid advance that medical education has made in a quarter of a century. The Curriculum of the Apothecaries' Company at the present moment, would have been an almost impassable barrier to any medical aspirant in the first years of the nineteenth century.

Gradual as has been the extension of the Curriculum, since 1815, the Court has "plucked" no less than 1,531 of the candidates for admission into the practice of physic! This was about one in eight of the applicants. There can be no doubt, indeed, that the Apothecaries' Company have discharged their duties with great propriety and assiduity; but still the opinion is gaining ground daily, that there should be *one* governing body, not only for regulating the Curriculum of study, but for examining the candidates for the diploma in the three branches of the profession. The examinators would, of course, be selected from the three existing bodies, but the Apothecaries seem to fear that theirs would not be the lion's share of the spoil.

"An apprehension appears to exists on the part of many, that it will be proposed to Parliament to exclude the general practitioner from all share in the examination of his own class, or to place him in so small a minority at the examining board, as to deprive him of all real control and influence in a matter in which the interests of his branch of the profession are so deeply involved."

But supposing that the Court of Examiners consisted of nine persons—three from each of the existing Corporations—we do not see that the Apothecaries' Company would be in a minority. It is far more likely that the delegates from one or other of the two higher bodies would side with the Apothecaries, on any disputed point, than that they would coalesce against the representatives of the general practitioners. In any clash between the physicians and surgeons, the apothecaries would have the casting vote; and, as is sometimes the case in politics, "*the tail would turn the scale.*" But it is needless to speculate, since the Government measure is, at the time we write, little known. It requires no gift of prophecy, however, to predict, that it will be far from giving satisfaction to even a majority of the heterogeneous mass of medical society, as it now exists.

CASE OF VERY LARGE STONE IN THE BLADDER EXTRACTED THROUGH THE PERINEUM.

THE following case, which has been transmitted to us, is one of much surgical interest. We have abreviated the less material details.

John M'Gregor, Corporal in the Mounted Coast Guard, aged 49, entered Melville Hospital, Chatham, with symptoms of stone in the bladder, which he had laboured under, more or less, from June, 1813. On sounding him on the 18th June, 1843, Dr. Rae, Deputy Inspector, found a large stone, round the apex only of which the instrument could pass, and examined by the rectum, the finger could neither raise nor pass beyond the stone. The patient himself declared that he frequently felt the stone move in the bladder, and that he could frequently retain his urine for two hours. Under these circumstances, Dr. Rae determined to perform the lateral operation. This we give in his own words.

The staff being introduced, and the patient secured in the usual way, I began my incision nearly two inches above the anus, and a quarter of an inch to the left of the raphe, at once an inch deep, rendering it more superficial as I passed the anus; the cellular membrane was then farther divided, and the transversus perinei muscle; my finger was then without difficulty pushed in to the deep-seated fascia, the groove of the staff felt for and cut into; a probe-pointed knife was now substituted for the former one, fairly inserted into the groove, carried on to the bladder, and next moment my finger was on the stone. Had this been of the usual magnitude, the patient would have been replaced in bed in a quarter of an hour with the loss of not six ounces of blood; but now all our difficulties began, and I was convinced that the patient could not have felt the stone moving for years, nor could he have retained his urine for two hours; indeed, he has

since informed me that he could not keep it more than a quarter of an hour during the day, or half an hour at night, and that he concealed his complaint as much as possible. The stone was now found to be of great size, over which the thickened coats of the bladder were permanently contracted. It seemed to be of a conical shape, the apex only being free, and to pass the forceps over it, and expand them for the purpose of extraction, was perfectly impracticable, the blades actually bent, and had I used more force, in the opinion of all present, I must have lacerated the bladder; the small end of a scoop could not pass without danger of perforation. The lower part only could be grasped, and the forceps almost invariably slipped, bringing away debris and numerous fragments each time. After many and repeated trials to extract, I handed the forceps to my able assistant, Dr. Charlton, but with no better success. The patient had now been an hour and twenty minutes on the table, and although he bore his suffering with heroic firmness, worthy of a M'Gregor, still he was getting exhausted, and it became absolutely necessary to desist. The bladder was washed out with warm water, and an elastic tube with lint placed in the wound, and he was carried pulseless to bed; warm brandy punch was administered, and warmth applied to the feet: an anodyne was afterwards given, and in a short time he rallied."

He recovered from the effects of the operation marvellously. The remainder of the case is instructive.

The wound was studiously kept open for farther proceedings, the stone was occasionally felt, and as had been predicted by my friend Mr. Fergusson of King's College, to whom I had related the case, became looser and less firmly embraced by the bladder. During this interval the Director General, Sir Wm. Burnett, had ordered, at my request, a pair of forceps to be made very strong, and with separate blades like those for midwifery,* with which I expected either to crush or extract. Having been in town, however, I called upon Mr. Guthrie, who kindly directed Mr. Simpson of the Strand, to make for me a crushing instrument, which he thought would suffice to break the calculus. Mr. Fergusson, same day, lent me one still more powerful, but on trial, neither of them had sufficient space between their prongs to grasp the stone, whose longest diameter was between the fundus and prostate. While waiting for my new forceps, I received a note from Mr. Fergusson, of 27th Jan. saying that he was called to see a lady at Chatham, would be down the following day, and, in case I had not succeeded in applying the crusher, would bring two fresh instruments with him. He came accordingly, Jan. 28th, bringing two pairs of forceps lined in their points, and one with a peculiar hinge, with which he had extracted several large stones. On minutely examining the situation and size of the calculus, both by the wound and rectum, Mr. F. was of opinion that it might then be extracted, though probably with some difficulty. Whereupon I waived all ceremony or selfish consideration, felt for the safety and welfare of my patient, was glad to avail myself of Mr. F.'s experience, skill, and dexterity in such cases, and requested he would proceed to extract. He kindly complied, little preparation was necessary, the incisions were already made, he introduced a pair of his own forceps, and was not long in extracting, though he met with much resistance, and the forceps slipped twice. Several broken pieces were extracted by the scoop, the bladder was washed out with tepid water and the patient placed in bed, complaining of much pain in the wound and in his back, and subsequently had a rigour. Some wine was given, and a morph. draught at bed-time. He passed a good night, and in the morning was free from pain or fever. Pulse 96, soft and small. Bladder washed out with tepid water injected by the penis. To have wine and arrow-root.

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* Mr. Simpson has now completed this instrument, and has ingeniously added to it a drill or perforator. It has been highly approved of by several eminent surgeons in London, and promises to be of great utility in cases of large calculi.

charge five shillings for his visit, including medicine: would it not be infinitely better for him to receive 3s. 6d. for his visit, letting the 1s. 6d. go to the chemist who prepares the medicine?

The new law will raise the education of the general practitioner, as nearly as possible, to the level of the pure physician and the pure surgeon, and leave him still in the degrading position of dispensing as well as prescribing his own medicines. It will be beneficial to the public, however, by equalizing as well as elevating the standard of professional attainments.

THE LATE WILLIAM ALLEN.

THE Vice President, in his address, gave a slight sketch of the career of Mr. William Allen, lately deceased. Mr. W. Allen, born Aug. 29, 1770, was the son of Mr. Job Allen, a member of the Society of Friends, and a silk manufacturer in Spitalfields. Mr. W. Allen, having in early life evinced a taste for chemical pursuits, was placed under the care of Mr. J. Gurney Bevan, under whose care he first acquired a practical knowledge of chemistry, and whom he afterwards succeeded in the concern. Here he was accustomed to rise at four or five o'clock in the morning, and sedulously apply himself to study, the usual hours of business being fully occupied. About the year 1804, he became connected as a public lecturer with the Medical School of Guy's Hospital, his coadjutors in the lectures being successively the late Dr. Babington, then the late Dr. Marcet, and afterwards Dr. Bostock. About this time also, he accepted the chair of Experimental Philosophy, at the Royal Institution, which he held for several years. His talents as a philosopher brought him into habits of intimacy with the most distinguished scientific men of the day, Sir H. Davy, John Dalton, &c. His most intimate associate and friend was Wm. Haseldine Pepys, with whom he was for several years engaged in chemical investigations. The most prominent of these were communicated to the Royal Society, and printed in the Philosophical Transactions of 1807, 1808 and 1809. Of this Society he was elected a Fellow in 1807. After a life spent in the active pursuits of science, he died in a good old age, at the age of 74, on the 30th of last January.—*Pharmaceutical Journal*, Feb. 1, 1844.

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38. Medical Report on the Kingdom of Shoa, Southern Abyssinia. By RUPERT KIRK, Esq. Assistant Surgeon. Transactions of Medical and Physical Society of Bombay.

39. The Spas of Homburg considered with reference to their Efficacy in the Treatment of Chronic Disease. By Sir A. MACKENZIE, M D. Second Edition, re-written and enlarged. Churchill, London, 1844.

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EXTRA-LIMITES.

On Schools of Naval and Military Surgery. By Sir George Ballingall, M.D.

To the Editor of the Medico-Chirurgical Review.

Edinburgh, 10th April, 1844.

Sir,—Some six months ago I addressed a Letter to Sir Robt. Peel, urging the institution of a Professorship of Military Medicine and Surgery in London, and another in Dublin. Thinking that I had thus fully discharged a duty which I owed to the public service, it was not my intention to have entered upon the subject again. But the unfavourable notice of that proposal which has appeared in the last Number of your Journal gives me the opportunity, and suggests the propriety, of offering, to my professional brethren, some explanatory details, which would have been altogether out of place in an address to the Minister.

The first erroneous opinion, which pervades, more or less, the whole review of my letter, is, that "my principal object was to contrast the liberal provision made by some Foreign States, particularly Prussia and Austria, for the education of their Army Surgeons with the very scanty provision made for the same purpose by our own Government." This contrast is indeed sufficiently striking, but a little reflection would have shown that it was only mentioned incidentally, with the view of rousing the attention of Government to the subject; and that my principal object was to point out the difference of duties which devolve on our Military and Naval Surgeons, compared with those of the Continental States. It is the special nature of the duties devolving upon medical officers in our service which constitutes the most important part of the contrast, and which requires a "course of instruction," not "different from," but over and above, "that necessary for the Surgeon destined for practice in civil life." Perhaps nothing will render this contrast more intelligible than the different duties which are expected of a Professor of Military Surgery on the Continent and in this country—there I find numerous gentlemen denominated "Professors of Military Surgery"—one, it may be, teaching the practice of Physic, another perhaps operative Surgery, and a third Ophthalmology; but not one of them, so far as I know, giving a course in the least degree akin to mine. If no special instruction be necessary to prepare our Army and Navy Surgeons for their peculiar duties; then are the educational establishments at the general hospitals superfluous. If such special instruction be requisite; then will it be most advantageously given where there are most to profit by it—in the Metropolitan Schools—which are frequented both by the old and the young. To which those already in the service naturally will, and to which those preparing for the service necessarily must resort.

The topics which should be embraced in a course of Military Surgery have, of late, been frequently specified, and are pretty fully stated by the reviewer in a quotation from Mr. Marshall:—we have here, on the one hand, a number of important topics enumerated as fit to be included in a course of Military Hygiene, and we have, on the other hand, an extended *curriculum*, in no one course of which are these topics embraced. Surely out of twenty months allotted to the practice of Physic, and twenty months to the practice of Surgery—in all forty months or nearly three years and a half—some six months might be spared to those educating for the Army and Navy, to learn something of the new and peculiar duties which, at their very outset, the emergencies of the service may call upon them to execute. I was not eight-and-forty hours in the Army when I was left in charge of two Battalions, and these receiving recruits every hour

That the Authorities admit the advantage of such a course of instruction is obvious from their permitting Candidates to take six months Military Surgery in place of six months of the Surgical Attendance enjoined on them. By the regulations of the Army, indeed, the former is preferred, a circumstance which the reviewer has failed to notice. The want of similar sources of instruction elsewhere has long been assigned as a principal reason for not making the course of Military Surgery in this University imperative. Did such a course exist in other Schools, I think Government would do well to render attendance on it compulsory, and I do not concur in the opinion that such attendance "might justly be considered a hardship." It is however more for the time than the means that I contend. A prevalent and, I believe, a growing opinion exists, that many of the *curricula*, or courses of education, prescribed by the different licensing bodies, are overloaded with compulsory study. Let there be less *compulsory* and more *optional* study, and I have no fear for the result as regards the Professors of Military Surgery. I have some experience of the popularity of this subject, and although, of late years, for reasons very easily explained, the number of students has been less, I have had, in one year, as many as eighty-one paying pupils, and this without the course being *compulsory* on any one of them.

The study of this department would not be thrown away even upon those "who might not be successful in obtaining appointments in the Army or Navy;"—it would not be thrown away either upon themselves or the public. Let gentlemen who may have so qualified themselves have a preference, in the intermediate approval of recruits, and in those numerous cases where troops are dispersed in small parties over the country, apart from their own Surgeons. The Soldiers would then meet with prompt and efficient treatment, while the public would have always at command a body of men who, without prejudice to their qualifications as general Practitioners, would be conversant with the duties of Military Surgeons, and thus competent to act on every emergency.

In a series of questions, more or less relevant, the reviewer asks, "Is the discipline young officers undergo at Fort Pitt or Haslar, and in a Regiment or on Shipboard, not adapted to initiate them into the mysteries of their respective appointments?" Were I to answer this question, as I shall answer others, in the words of some of the most experienced and intelligent Surgeons in the Army, it would not, I apprehend, suit the reviewer's taste, nor serve his purpose; but I prefer, in this instance, speaking in my own person, and will take the liberty of answering one question, *more Scottico*, by asking another. The promptitude, tact, and efficiency, which an attentive young man ultimately acquires under an intelligent and judicious Surgeon, no man can more highly appreciate than I do; but might he not be so prepared, by a course of previous instruction, as to acquire all this more speedily, more surely, and more advantageously to the public service? The instructions given at Chatham and at Haslar I am not disposed to undervalue, but I am not singular in the opinion that much of this instruction might be given with equal, if not with more, advantage elsewhere. The opinion that the Museum attached to the General Hospital at Fort Pitt might be placed more advantageously in the Metropolis, is proved by the fact, that a large subscription, at the head of which is the Director-General, has been entered into by the Medical Officers of the Army, "towards the erection of a building for the Museum and Library in London."

With regard to the general Hospitals, as sources of Clinical instruction, I have already hinted at some of the disadvantages under which they labour, but the subject is by no means exhausted. No general Hospital, in this country, can ever be so advantageously employed as the "Hôpitaux d'Instruction" in France, and for this very obvious reason, that we have not here the same diseases to treat as those with which our Military and Naval Surgeons have to contend in our numerous Colonial possessions. So far as Clinical instruction can be combined with the systematic courses of lectures, which I wish to see established in the Metropolitan Schools, it would perhaps best be given by occasional visits to the

several Regimental Hospitals of a large Garrison, like London or Dublin; visits such as I have occasionally made, every Session, to the Hospital in Edinburgh Castle. There the pupils would see the diseases which actually prevail amongst the soldiery in this country—not the diseases of invalids. They would see also the interior economy and administration of those Regimental infirmaries which have so long been a source of legitimate pride to the Medical Department of the British Army, and to which no parallel is to be found in the other armies of modern or of ancient times. Few of the subjects embraced in the course of Military Surgery are susceptible of clinical illustration. Many of them are highly susceptible of explanation by means of preparations, casts, models, plans, and drawings, such as are provided for the use of the Students of Military Surgery in this University, and of which I have herewith the pleasure to inclose a printed catalogue. Of the subjects enumerated, at pages 8 and 12 of my Letter to Sir Robert Peel, it so happens that the treatment of Ophthalmia, and of the Venereal Disease, are almost the only subjects admitting of any extensive illustration in the Military Hospitals of Great Britain. The illustration of Tropical Diseases in these Hospitals is obviously impossible; and the soil of England—thanks to our gallant Army and Navy!—has never, in our day at least, afforded a field for clinical instruction in the treatment of Wounds.

General Hospitals, however, are necessary for the purposes of the service. One for the whole Army in Great Britain is certainly not a superfluity, and two for the Navy are perhaps still less so. In the Royal Navy the only establishment akin to the Regimental Hospital is the Sick Berth. This upon most occasions is a very limited field, and to the gentlemen of this Department, when returning from foreign service, or attached to ships lying in port, the great Naval Hospitals, with the Collections and Libraries belonging to them, must prove an interesting and valuable source of professional improvement. But the Gentlemen connected with this branch of the service would not, I think, undervalue the importance of a Metropolitan School, in addition to those means of instruction which are necessarily confined to the great sea-ports. It is only justice to these Gentlemen to say that, amidst all my mixed audience, there are none who have been more punctual in their attendance than some of the Naval Surgeons; there are none from whom I have received more interesting communications; and there are none who have shown more gratitude for the information I was able to give them in return.

This leads me to say a word upon the attendance of Gentlemen already holding Commissions in the service. I am said to have overlooked the fact, that medical officers, even after many years' absence from their native land, rarely obtain sufficient leave to enable them to study. I had, on the contrary, noticed, to the credit of the present Heads of the Medical Departments of the Army and Navy, that they have granted, for this purpose, every facility which the good of the service would possibly permit. I was myself one of fourteen Army Surgeons who graduated here in one year; I have had in one Session as many as thirty-six medical officers entered to the class of Military Surgery; and in all, during the twenty years I have lectured, four hundred and ninety-eight. This no doubt includes all those gentlemen who have been successively stationed here with their Regiments, several who were upon half-pay, and many who have only attended occasionally, or for very short periods; but, with all these deductions, a very considerable number on leave of absence, many of them in an indifferent state of health, have occupied themselves in a praiseworthy manner, in attendance upon this, and other classes in the University during the whole Session. A numerous body of Medical Officers, those in the service of the Honourable East India Company, have always, from the prolonged leave of absence which they obtain, ample opportunities of attending lectures, and of this they have very fully availed themselves.

I am held to be unfortunate in alluding to the Statistical Reports on the health of the Army and Navy, as sources of information to be turned to account in the

Lecture-room. The conclusions deducible from these reports are indeed "remarkably clear, plain, and unambiguous," and it certainly is not as "the groundwork of a few passing remarks," that the results of these statistical inquiries should be brought before his pupils; but as the most appropriate and most forcible illustrations which a Professor can possibly give, of the observations which it is his duty to make on the geographical distribution of diseases; on medical topography; on the choice of sites for Camps, Cantonments, Barracks, and Hospitals; on the diseases prevalent amongst Europeans on Foreign Stations, and in the vast native Army of India; as well as amongst the various races which constitute our several Colonial Corps, Negroes, Hottentots, Malays, and Cingalese. This, in addition to all other measures for extending their circulation, would be one of the most powerful means of impressing on the rising generation of Army and Navy Surgeons the value of these reports; and I still hold to my opinion that, without this, no justice will be done to them. The measure which I advocate, the establishment of additional Professorships of Military Surgery, has no more strenuous supporter than Major Tulloch, the very author of these reports, and I have reason to believe that this gentleman concurs in every syllable of the following observations by the editor of the "Naval and Military Gazette."

"No Medical Candidate should be permitted to enter the Army or Navy, who has not attended at least one course of Lectures on Military Surgery, embracing all those circumstances by which the health of Soldiers and Sailors is likely to be affected in different climates; and to enable him to do so, it is indispensable that two medical officers of acknowledged talent in that department of their profession, should be nominated to Chairs in the Universities of London and Dublin, and whose duty it would be, to give to their pupils the benefit of the experience they have acquired in a long course of service, as well as of the vast mass of information annually transmitted, from all foreign stations, to the Medical Departments of the Army and Navy, and which, we feel confident, would most cheerfully be laid open to their inspection for this purpose.

In a subsequent number of the same Gazette, (448) will be found a communication from several experienced Staff and Regimental Surgeons, who attended the class of Military Surgery in this University during the Session 1840-41. "We rejoice to observe, in a recent number of the Naval and Military Gazette, (January 30th, 1841,) that this subject is taken up in connection with the valuable statistical inquiries which have lately been made into the sickness and mortality of the Army and Navy, and we are confident that nothing could be more conducive to the public interests than the appointment suggested by the writer, of Professors of Military Surgery in London and Dublin, to whose province it would fall to keep the results of these statistical inquiries constantly before the rising generation of Army and Navy Surgeons."

Amongst the Queries to which I may be expected to reply is the following: "Are the few who have attended the class of Military Surgery, more efficient, more studious, better informed, more accurate observers, or more zealous and industrious in collecting and diffusing the results of their experience and observations than their brother officers?" This is a somewhat comprehensive question, and it would be somewhat unreasonable to expect me to answer for some seven hundred young men, who have now passed through my hands as pupils, or even for the limited number of these who may have obtained Commissions in the public service. Much of their efficiency must depend upon the "number of hours, which," in the words of the reviewer, "are spent by Medical Officers in the Billiard-room, or dissipated in some of those ingenious methods devised, both in the Army and Navy, to kill time." That, in the opinion of very competent judges, young men so instructed, are well qualified to become efficient medical officers, may be gathered from the following answer to similar questions propounded to two very intelligent and experienced Army Surgeons, Deputy-Inspector Marshall, and the late Staff-surgeon Badenach. "We have a very

high opinion of the utility of a course of lectures of this kind. A student who has attended a course of lectures on Military Hygiene, and on Military Medicine, is prepared to avail himself, with great benefit, of the practical advantages of experience, by which means he will be much sooner able to assume in an efficient manner the medical charge of a body of men, than if he had not received such instructions. A course of lectures on Military Surgery is extremely useful, inasmuch as it supplies that information which is peculiarly required by medical officers, and which can be but imperfectly communicated in a course of lectures, either on the practice of Medicine or Surgery."

Again, it is asked, "What practical advantages have resulted, during the last thirty years, from the establishment of a Chair of Military Surgery in Edinburgh?" This is a question very unfit for me to answer, inasmuch as I can scarcely be considered an impartial judge; but, fortunately, I am under no necessity of doing so: the question has been already asked, and already answered, by more competent authority. "Do you think the institution of a class of Military Surgery at Edinburgh, was a beneficial addition to the course of Medical study? In so far as the public service is concerned, the Army, the Navy, and the Service of the Honourable East India Company, I think it has been a most beneficial addition to the Chairs of the Medical School at Edinburgh. Besides Wounds, and what is termed Military Surgery, the Economy of Hospitals, and of Hospital Arrangements, is in this School taught by a gentleman who has served much in the field and in various climates. At the end of the last war upwards of 300 Medical Officers of the Army were placed on half pay, and it is within my knowledge that many of them profited greatly by attendance upon this class, before they returned to employment on full-pay." Such is the question submitted to, and such is the answer given by Sir James M'Grigor, to the Commissioners for visiting the Scottish Universities in 1827, when I had been about five years in possession of the Chair. With regard to the utility of this class, in subsequent years, I refer the reviewer to a short notice of my Letter to Sir Robert Peel, in the January number of the British & Foreign Med. Review.

Upon one subject, the reviewer's sentiments and mine cordially agree; the propriety of "stimulating the emulative industry of medical officers, and exciting them to professional improvement." Sir Gilbert Blane's Gold Medal as a prize to the Naval Surgeons, is noticed with much approbation in my "Outlines of Military Surgery;" and the successful labours of Mr. Malcolmson, by which he obtained the Prize for the best Essay on "Berriberri and Burning in the Feet," have been quoted in my Class-room from year to year, ever since that Essay was presented to me by the Madras Government. Concurring in all that is proposed on this point, I am prepared to go even a little further than my reviewer. It is quite possible that a man may write a valuable essay on a given subject, without being an efficient Army Surgeon; and Sir Robert Peel, without taking an additional shilling from the public purse, might offer a boon to industrious students, and to deserving medical officers, ten times more valuable than all the money that can ever be allotted for Prize Essays. For a series of years I have held annually a competition amongst the students of Military Surgery, by way of examination, at the close of the Session, and have been fortunate enough to procure Commissions in the Army or Navy, for several gentlemen who have distinguished themselves in these competitions. No prize can be more valuable, to a candidate for employment in Her Majesty's Service, than a Commission, and none can be more valuable to an officer already in it, than a step of promotion, an appointment to a crack regiment, or to a favourite station. Let this be followed out upon a large scale, let an appointment be given to the most deserving student, and a step of rank to the most deserving officer who may be eligible to it,—their merits, in either case, to be decided by a Committee of experienced officers, as is done at Sandhurst and at Addiscombe. Let this be done annually in each of the three proposed schools, and I can conceive no plan more likely to elevate the character of the

Department, or to furnish the service with a well-informed and efficient body of Staff Officers, capable of giving to the Governor of a Colony, or the Commander of an Expedition, the most judicious advice in all that regards the health of his troops.

I have, hitherto, sir, as you will observe, addressed myself generally to the objections which have been brought in opposition to my views; I would now address myself a little more particularly to you and to the reviewer. I have not presumed to think that these objections embody the sentiments of an experienced Naval Surgeon, more especially of one who has acquired experience on the Indian Station, "who has seen the diversified maladies produced by climate, season, constitution, and co-existing circumstances." I am, indeed, hardly left to conjecture on this subject, for we are told, in a subsequent article, that this reviewer is an accomplished Army Surgeon, of which I make no doubt; but I must be permitted to say, that he has, in my opinion, taken a very limited view of his subject,—a view very far short of those lofty conceptions which dictated the Memoir of Mr. John Bell—a memoir which you have seen proper to reprint, and which, although inapplicable at the present day, as regards the general education of our Army and Navy Surgeons, is *more than ever* applicable to that special instruction which it so forcibly inculcates, and which our enlarged establishments, our extended commerce, and our multiplied possessions demand.

Your reviewer cannot have considered all the important bearings of this question, as regards the *collection* as well as the *diffusion* of information on the health of the troops. The pupils of this class have distinguished themselves in all the recent struggles in India. In the first luckless campaign of Affghanistan, no fewer than three of them perished; one of these was Dr. Cardew, whose fate is so feelingly deplored by Lieutenant Eyre, and who had become so great a favourite with the soldiers that, when unable to travel farther, they endeavoured to save him by conveying his almost lifeless body on the carriage of a gun. To this gentleman I was indebted for a communication on fractures when a pupil of the class, and had his life been spared, I might have been in possession of information which is now for ever lost to the world.

I have at this moment lying before me Statistical tables of the sickness and casualties amongst the Queen's troops in China, and returns of Surgical Cases after Sir Charles Napier's recent actions in Scinde, framed for my special use by the Superintending Surgeon of the force, an old pupil of the class. The communications indeed which I have received from my pupils, in the shape of contributions to the Museum, of Returns and reports from distant stations, or of written Essays on subjects discussed in the progress of the Course, are more than I shall ever live to do justice to, or sufficiently to express my gratitude for. Amongst several of these communications which have appeared in print, I may be allowed to notice an Essay on the Comparative Merits of Flap and Circular Amputations by Mr. M'Hardy, and the Essay on the Feigned Diseases of Soldiers and Seamen, by Dr. Gavin. To these I trust I may soon be enabled to add a valuable history of the Medical Department of the British Army, by Dr. Irving.

I am said to have failed in making out a case for additional Professorships of Military Surgery. Upon this point, however, I trust there is room for a difference of opinion; I am told by a distinguished General Officer, who has fought and bled in the service of his country, that I have made out "a most triumphant case," and we are told by a spirited and intelligent professional writer, "that the Government which reads the arguments of Mr. Guthrie and myself, and does nothing, is as clearly condemned as the man who will persist in denying mathematical axioms."

Will your reviewer now allow me to tell him where I think he has failed? He has failed to see how much the institution of such courses of instruction as I recommend is calculated to raise the character of his department. He has failed to see what influence it is calculated to give to medical opinion in the eyes of those holding superior command; and he has failed to see what a waste of life

and of health it may obviate, by a perfect foreknowledge of what has happened, and what may again happen, in any given circumstances.

After having been so freely questioned by the reviewer, I shall not I trust be accused of any thing rude or uncivil, in asking whether this gentleman has served any considerable portion of his time in the East or West Indies; if so, I have only to observe that he differs very widely in opinion from others similarly situated. Hear the opinion of one of the survivors of the mortality at St. Domingo,—one who subsequently served through the Peninsular war with the elevated rank of a Deputy Inspector of Hospitals, one who, a second time, served in the West Indies, as Chief of the Medical Staff in the Windward and Leeward Islands, and who now lives respected and esteemed by every man who knows him. "I ought," says this voice from St. Domingo, "to have thanked you before now for the little brochure you have sent me, in every word of which I thoroughly agree, and only wish that your arguments may make a suitable impression upon the authorities who have power to give them effect. Your quotation from Mr. John Bell is singularly apposite and good. The most experienced campaigner could not have written better." Hear again the opinion of another gentleman who retired as President of the Medical Board after seven and thirty years' experience in various parts of India;—under all circumstances and situations of inter-tropical service; in charge of large general hospitals at fixed stations; in field hospitals on actual service; in regimental hospitals moving over various countries, and through different climates; amongst Europeans as well as Natives; and among men, women and children: "I am very much obliged to you for your kind letter and enclosures; I sincerely hope you may be successful, and I think it very probable you will, as the importance of what you recommend must be obvious to every man who thinks at all, and particularly those who have any knowledge of soldiering, or the important duties devolving upon medical men on Foreign service. You have already done so much to benefit and improve the studies of Military Medical officers, that nothing is left but to follow up your plans; which, if adopted in London and Dublin, by the nomination of competent Professors, there cannot be a doubt that the public will be great gainers."

Both the gentlemen above alluded to have written much, and have written well, on the diseases of the troops, and on military hygiene, and their cordial approbation of my views would seem to show, that they concur in opinion with another talented and experienced Army Surgeon, who, with reference to the very article on which I am now commenting, observed, that "the reviewer might as well propose to supplant the Commissariat of an Army by Dr. Kitchener's work on Cookery, as to supply the purposes of so great a School by a book." But it were endless to multiply such quotations; suffice it to say, that I am now in possesson of six-and-forty letters to the same effect—all these letters, be it observed, wholly unsolicited. One from the Director-General; seven from Inspectors of Military Hospitals, or of Naval Hospitals and Fleets, eighteen from gentlemen holding the rank of Staff, Regimental, or Naval Surgeons, and the others from Professors in English Universities, from private practitioners, or from General and Field Officers in the Army—the last a class of men whose evidence I am inclined to rate very highly in a question of this kind. A medical man does not, I believe, consider it necessary to acknowledge every pamphlet which may be laid upon his table; and when so many gentlemen of talent and experience have stepped forward to volunteer their opinion in support of my proposal, I may well sit at ease under the strictures of my reviewer.

I conclude by observing, that it is from respect to the established reputation of your Journal, from respect to your own character, personal and professional, and from respect to your position as a Naval Surgeon, that I have been mainly induced to enter into this detail. Believe me, Sir, that in what I have now written I am much more solicitous about the promotion of a great public object, than about my personal vindication, or my private interest. I have now been employed for nearly forty years in the study, in the practice, and in the teaching of Military Surgery. I have submitted to the Government, from an imperious

sense of duty, my sentiments on this important question, *valeant quantum valere debent.* Gratified by the approbation of my seniors and contemporaries, both Military and Medical; strong in the rectitude of my purpose; and feeling, personally, but little interested in the result, I shall not again be easily drawn from that quietude which best befits my habits, my present state of health, and my time of life. I remain, Sir,

Your very faithful and obedient Servant,
GEO. BALLINGALL.

WYKE HOUSE ASYLUM FOR NERVOUS INVALIDS OF THE UPPER AND MIDDLE CLASSES.

It is only among the Poor that the benevolent views of a more advanced Science, in the treatment of the Insane, can be said to be reduced to practice. Among the middle and upper Classes they are still unapplied, at least to any satisfactory extent. Persons of moderate means, or who are not too rich to disregard expense, are debarred the advantages of the well-organized Pauper Asylum, and are too often made over in consequence to the care of men destitute of any notions of medical or psychological science. We have laid aside the means of force, but in how many forms do neglect, harshness, and abuse still prevail! We have ceased to regard these poor creatures as brutes; but have we yet begun to treat them as men? The alienated invalid is but too often abandoned to the care of a keeper, without employment, recreation, or personal consideration. He is cast out, because he is stricken; and hence his restoration is rendered more uncertain, and often hopeless.

It is to meet this want that Dr. Costello, long the pupil and friend of the illustrious Gall, has opened Wyke House, Osterley Park, not with the pretension of forming a model Establishment, but to aim at least at making better arrangements for these classes of patients than have hitherto been brought within their reach.

In order to carry out a plan based on the accommodation of numbers, without which the advantages of a judicious classification are unattainable, the first desideratum was an extensive range of buildings in a favourable locality, with pure air and water, and a sufficient extent of land to afford facilities for exercise, varied occupations, and quiet seclusion. These conditions, indispensable to a well-combined plan of general treatment, are united in Wyke House, almost to a degree unequalled by any Establishment in the kingdom.

The House is situated on Sion Hill, one of the most elevated and salubrious spots in the vicinity of London, from which it is distant 7¼ miles. The buildings consist of a large mansion, fronting to a woody lawn, with two wings extending from it, and enclosing a spacious court, 200 feet long. The facades, front and rear, extend 270 feet. The flower and walled gardens, and ornamental grounds, cover an area of nine acres, and, inclusive of the farm lands interspersed with finely timbered groves, the range extends over 30 acres. The command of prospect is extensive; Harrow, Hampstead, Richmond, and the Surrey Hills, are in the distance: while Ealing, Hanwell, and the winding valleys of the Brent and Thames, form the fore-ground. It is thus the centre of some of the most attractive drives in Middlesex, viz. Osterley, Sion, Ealing, Kew and Richmond Parks, Isleworth, Twickenham, Hampton Court, Bushy, and Sunbury.

Within wholesome bounds, there are still many enjoyments, in which, either for cure or comfort, the nervous invalid ought to be made to share. This being a leading principle, the Establishment for all who are capable of social relaxation forms but one family, of which the Director and his lady are the heads. Influences opposed to the morbid fancies of the patient are thus brought into activity, at table, and in the evening circle, by music, conversation, books, and the numberless offices of kindness and attention of an uninterrupted intercourse. By such means he is gradually strengthened to shake off his wayward imaginings, and to feel that he is not in a prison, but in a home.

The medical and moral treatment embraces all the modern improvements—baths, douches, padded rooms, chair and carriage airings, &c. The out and in-door occupations and recreations comprise the culture of plants and flowers, the management of hot and green houses, of domestic animals, the farm yard, and horsemanship; billiards, tennis-court, skittles. The airing grounds are large and dry; and there are spacious rooms for exercise in wet weather.

For particulars, application to be made at No. 10, *Golden Square, in London; or at Wyke House, Sion Hill, Middlesex.*

CIRCULAR ADDRESSED TO THE MEDICAL OFFICERS OF THE EAST INDIA COMPANY'S SERVICE, BY THE MEDICAL BOARD AT CALCUTTA. Dated 20th October, 1818.

To the Editor of the Medico-Chirurgical Review.

Oriental Club, 31st May.

Sir,—In your number for April last, you published an interesting but visionary letter from the late Mr. John Bell, to the late Earl Spencer, in relation to the means of promoting Military Medical Science. Will you be so kind as to find a place in your forthcoming number for the accompanying appeal to the Medical Officers of the East India Company's Service, by the Medical Board at Calcutta, on a similar subject. The "Circular," which was obviously much called for, is dictated by sound sense and great practical experience.

I am, Sir, &c.

ORIENTALIS.

Sir,—In conformity with the orders of Government, the Medical Board have directed me to submit to you the following considerations, relative to a proposed plan for the collection, and accumulation, of professional information, relative to this country, and its more extensive diffusion, amongst the medical part of the service under this Presidency.

It has been a frequent subject of regret to the medical world, that, wide and rich as is the field in India, for the cultivation of physical science, and the study of pathology, the labour hitherto employed in it, even in comparison with what has been bestowed on far less promising spots, has been negligent and irregular, and the product presented to the public, scanty, and in the extreme unprofitable. Whilst in almost every other portion of the civilized world, scientific objects have been pursued with energy and success, and every successive year has largely added to the previous general stock of medical knowledge; India has scarcely given birth to a single important discovery, or publication of acknowledged merit, on professional subjects, since the first establishment of the British interests in this quarter.

If we search for the causes which have given rise to this strange anomaly, and placed these Settlements apparently so far behind the other scions from the parent Country in point of professional zeal and intelligence: we shall not find that it can be fairly attributed to the faulty constitution of our Medical Establishment; or to the apathy and incapacity of those belonging to it. The individuals composing this respectable class, have ever been remarkable for the diligent and able performance of their duties. They would seem to be, by previous regular education, and by subsequent large acquaintance with the diseases usually prevalent in hot climates, peculiarly qualified to impart useful information to their less experienced brethren.

The evil, then, is to be traced to another source: and will be readily discovered in the total want of any eligible means of communication between them and the profession at large. Removed as they are, to an immense distance from Europe, they cannot venture on the risk, or undertake the superintendence of printing a large work; and, in this remote spot, they have not, as in London, and other great cities, periodical journals exclusively devoted to professional subjects; and affording facilities for publishing, without expense or trouble, such short essays, or individual facts, as they might deem worthy of general notice.

These peculiarities of exclusion, to which the Medical Staff of this country are necessarily exposed, have been productive of very serious disadvantages. They have affected equally the reputation of the individual, and the character of

the profession at large. The fruits of each person's experience have, unavoidably, been confined within the narrow sphere of his individual knowledge, or uselessly deposited amongst the records in office, and thus, whilst the medical world has been deprived of the principal end and use of past observations,—that of serving as a guide to practitioners for the future, the younger branches of the profession have been shut out from benefiting by the fund of knowledge acquired by their seniors.

Strongly impressed with the truth of these remarks, and fully convinced of the expediency of removing the injurious barrier, at present existing between the medical observer and his brethren, Government has lately resolved upon collecting and printing at the public expense, all communications of interesting facts and particulars connected with the diseases of this country, and the modes of treatment best adapted to their removal. Instructions have accordingly been issued to the Medical Board, to make the substance of this resolution generally known throughout the Medical Department of the Service, and to carry the subordinate arrangements for the success of the plan depending on it into early effect. It is in compliance with these instructions, that I have now the honour to address you.

After mature reflection, it has appeared to the Board, that the most ready and effectual means of fulfilling the liberal intentions of the Most Noble the Governor-General in Council, is to hold out an invitation to all officers borne on the medical list, to prepare and transmit to this office, such papers, whether comprehending a general description of any disease, or set of appearances, or confined to the relation of single cases or remarkable facts, as they may be willing to lay before the public.

The nature of the projected compilation, and of the materials of which it is desirable that it should be composed, may be readily conjectured from the foregoing remarks. It will thence naturally be supposed that the greater portion of it will be devoted to subjects of a strictly professional nature. It is by no means the wish of the Board to exclude from it essays, or single observations on chemistry and its dependent arts, natural history, botany, or others of the sister sciences. One of the most gratifying effects indeed contemplated by the Board from the successful operation of the scheme under consideration, would be the direction of a greater share of attention than has been hitherto given to these very interesting departments of science; the investigation of which, besides the important uses to be derived from it, affords a copious source of rational enjoyment to an inquisitive mind.

On the choice of subjects for publication, the medical observer must therefore, in a great measure, be left to himself, and each individual will, of course, on this point, follow the bent of his own inclination: the Board are convinced that he can never be at a loss for fit points of inquiry. The true nature and treatment of fevers, bowel complaints, and the other great classes of disorders common to India, with other regions, are yet very imperfectly understood. And their investigation, while it lies peculiarly open to practitioners in this country, would be hailed by their brethren in Europe, as opening a path that must lead to conclusions important and interesting to all. The various species of cutaneous diseases, elephantiasis and other maladies almost peculiar to warm countries, present a wide and nearly untrodden field to the curiosity of future investigators, whilst much room for experimental research still remains in ascertaining the real powers of such articles of the materia medica of the natives as seem to possess virtues peculiar to themselves, or as might be occasionally substituted with advantage for medicines imported from Europe.

So soon as a body of manuscript, sufficient to form a sizeable volume shall have been collected, the Board will proceed to digest and prepare it for the press. The Board understand it to be the present intention of Government, that copies of each successive volume shall be distributed to every medical officer through-

out the country. They wish it to be clearly understood, that of the papers transmitted for their revision, it will be optional with the individuals making the several communications, to determine whether their names shall or shall not be made known to the public. They do not anticipate many instances in which it will be necessary for them to exercise the rejecting power placed in their hands; but should it ever happen that they find themselves obliged to perform this painful duty, the papers meeting their disapproval will, whenever required, be returned to their authors.

Having thus alluded to the materials of which the proposed work is to be framed, it seems proper to say a few words on the part to be taken by the Board in their compilation and preparation for the press; it will appear evident that some power of alteration as well as selection must be placed in their hands; but this power, it is both their wish and determination to use as sparingly as possible. From the communications received, they will set apart and arrange for publication, without alteration, all papers appearing to contain important doctrinal views and interesting practical details and observations; this will generally be done without minute reference to judiciousness of manner, or peculiar niceties of style, as occasion may seem to require; they will preface each class of essays on any particular disorder, with such remarks as their own longer experience, or various returns from the different establishments under their control may point out to them as bearing upon the subjects under discussion. In addition to these prefatory remarks, short notes may now and then be interspersed at the foot of the page elucidatory of the text, and communicating such information as may prove generally interesting to the profession, or such recent medical intelligence as, although known to their brethren in Europe, may, from distance and the difficulty of procuring English publications at remote stations, still have failed to reach the great body of the medical staff in this country. To each separate volume the Board may likewise prefix an introductory discourse, comprehending a historical sketch of the health of the various corps and departments of the army, and of the civil establishments under their superintendence, during the past year, and illustrative of the causes and effects of any sudden or marked changes; any increase or diminution of sickness, that may have occurred during the period under review. The whole to be followed by a series of tables or returns, showing the strength of each corps; the number of its sick and casualties, and the complaints most prevalent amidst it, and affording to the profession in general data, on which to form accurate conclusions regarding the nature and fatality of the diseases usually encountered in Indian climates.

The Board need hardly say, that in a work, one main object of which is to excite a free spirit of inquiry and discussion, they cannot consider that it falls within their province to censure harshly any portions of individual essays, that may, in their judgment, contain assumptions erroneous in theory or practice, to constitute themselves absolute judges of the merits of questions at issue; or to assume authority, to dictate precise rules, or lay down positive laws, for the guidance of the Medical Staff in the treatment of diseases. They will, in all cases, consider it to be their duty to refrain from taking part in professional disputes, and from betraying such a bias to particular theories or opinions, as might tend to restrain those under their authority, from the open expression of their sentiments; and, if they ever interfere in the points under discussion, it will be from the more gratifying motive of holding up to general approbation, instances of rare ingenuity, or of laudable industry.

The great and numerous advantages to be gained by the prosperous issue of the undertaking now on foot, are so clear and evident, that the Board feel persuaded they need make use of no further arguments to secure to it your concurrence and hearty co-operation. Its immediate effects, it is hoped, will be to excite a spirit of honourable emulation, that may call forth the talent and energy which have till now lain nearly dormant: to give a strong impulse of activity,

and to communicate to all parts of the Service a feeling of consent and mutual respect, and an ardent desire for the improvement of professional pursuits. Looking a little further, we may venture to predict, that ere the lapse of many years, a large mass of valuable information will, by its means, be placed before the public, and this country be thus relieved from the reproach under which she has long lain, of having failed to contribute her part to the advancement of science, and the lessening of disease and human misery.

Such communications as you may please to make in furtherance of the foregoing statement, you will have the goodness to address, in the usual form, to this office.

I have the honour to be,
Sir, &c. &c.
SECRETARY, MED. BOARD.

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No. LXXXII. OCTOBER 1, 1844.

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THE

Medico-Chirurgical Review,

No. LXXXII.

[No. 42 OF A DECENNIAL SERIES.]

JULY 1, TO OCTOBER 1, 1844.

FIRST REPORT OF THE COMMISSIONERS FOR INQUIRING INTO THE STATE OF LARGE TOWNS AND POPULOUS DISTRICTS. Presented to both Houses of Parliament by Command of Her Majesty.

THE subject of the Report before us is the wide-spread existence of removable causes of disease, and the best mode of securing their removal.

That prevention is better than cure is in no case so true as in that of medicine. Great as is the utility of efficiently treating disease—the preservation of health is greater still. The cure of a disease, as it is called, is often the partial removal only of an existing evil—its prevention is its complete avoidance. It rarely happens that the subject of severe sickness, however complete may be his apparent recovery, escapes without some permanent injury to his constitution, which either lowers the standard of his health, and adds, practically, years to his constitutional age, or, at least, renders him more prone than he would otherwise be to subsequent attacks of the like or analogous disorders.*

Then again, how often does it happen that complete recovery is not the issue of the best-directed remedial treatment. Not rarely death claims his victim before his naturally-appointed time, and still more frequently the occurrence of a severe attack is but the commencement of a series of tormenting and protracted sufferings. By the prevention of disease, then, not only is immediate risk and pain and anxiety avoided, but permanent injury prevented, and unquestionably a large addition made both to the duration and the desirableness of existence.

Until a comparatively recent period this most important subject,—attention to the general health of the community—had met with but little attention either from the profession or the public. What is every one's business, is no one's business, and this has been no exception. Our knowledge, even of the exciting causes of particular diseases, is in a very unsatisfactory state; that of the remote and predisposing causes, of the reasons for the prevalence of particular classes of disease among certain portions of the population, is still more imperfect. The contrast between our ignorance on these subjects and the advanced state of our knowledge in pathology and practical medicine and surgery is very remarkable. Nor is it surprising. Knowledge on the latter subjects is required for our ordinary business; by it is our road to fame and fortune, and by its employment we earn our daily bread. For the other sort of knowledge there is

* This is so well known that many insurance offices will not accept the lives of those who have been previous sufferers from any serious disease, and all make it an important object of inquiry in estimating the risk of each particular life.

little demand, and consequently but a small supply. For without in the least insinuating that the members of our noble profession are habitually actuated by merely mercenary motives, they, like other men, pay but little attention to that, which, however valuable, is not useful to themselves; and a subject of such extent and difficulty as that of the nature and mode of removal, of removable causes of disease, will never be thoroughly understood, and still less will such information be widely diffused, until a number of men are engaged in acquiring and employing the knowledge *as a profession*. That not being the case, we ought rather to be surprised that our knowledge is so extensive as we find it, than that it is so confined as we confess it to be.

The Commissioners, whose Report we are examining, were appointed by Her Majesty's Letters Patent, dated May 9th, 1843, "to inquire into the present state of large towns and populous districts in England and Wales, with reference to the matters hereunder specified:—

"The causes of disease among the inhabitants.

"The best means of promoting and securing the public health under the operation of the laws and regulations now in force, and the usages at present prevailing with regard to—

"The drainage of lands;

"The erection, drainage, and ventilation of buildings;

"And the supply of water in such towns and districts, whether for purposes of health, or for the better protection of property from fire, and—

"How far the public health and the condition of the poorer classes of this realm, and the salubrity and safety of their dwellings, may be promoted by the amendment of such laws, regulations and usages."—*Report, p.* vii.

The Report, with its evidence and appendices, appears in the form of a large blue book, of more than seven hundred pages. It is clear that we cannot present even an outline of so vast a mass of matter, and all that we shall attempt is to abstract enough to establish the following points. First—the wide diffusion and vast importance of the evils to be remedied. Secondly—that the causes of the evils are removeable. Thirdly—that the cost of their removal would impose no inordinate burden upon those who would have to bear the expense of, as well as receive, the benefit to be conferred.

1*st. The wide Diffusion and Extent of the Evil to be remedied.*

Upon this point we may be very brief. The wide diffusion of the evil of excessive unhealthiness of towns is established by the fact, that out of 40 of the largest towns in England, four only have a rate of mortality not exceeding that of the average of the country; which average is itself raised by this excessive, and, as we shall shortly try to prove, artificially high mortality. The mortality of healthy districts is about two per cent. Eight only of the forty towns above alluded to have a rate of mortality less than two and a half per cent., while five have a rate exceeding three per cent.; and in one, Liverpool, the mortality has been three and a half per cent. In other words, while in a healthy district twenty out of a thousand inhabitants die annually, and the average duration of life is more than forty years, in five of these large towns thirty or more out of every thousand perish in the same time, and the average duration of their lives is reduced by one-third of its natural period. It requires no argument to prove the incalculable importance of measures tending to diminish this fearful sacrifice of life, to alleviate the injury by which it is accompanied, and to extend to its natural term the period of existence for vast multitudes of our fellow-creatures.

We will, however, present another illustration. In the fifth Report of the Registrar-General, at page 400, a table is published which well deserves attentive study. It is too long for extract, we must content ourselves with giving some of the results. It is an abstract of the deaths registered in the year 1841, in the districts of 25 towns, in the Metropolis, and in Cornwall, Devonshire, Dorset-

shire, Somersetshire, Wiltshire, Essex, Gloucestershire (except Bristol and Clifton), Herefordshire, Norfolk (except Norwich), Suffolk, Sussex, and Westmoreland. The population of the Metropolitan and town districts was, in 1841, rather more than three and a half millions (3,759,186), that of the rural districts was rather less (3,440,501). The disproportion in the number of deaths, however, far exceeded this small disproportion in the amount of population, being 96,999 in the town districts, and only 65,575 in the rural districts, being a difference of 31,424. In other columns the comparison is made of the mortality among exactly equal civic and rural populations. The calculation is made of the number of deaths from all causes occurring in 1841, among a population of 1,000,000 of both town and country districts: of the former 25,803, of the latter 19,060 died in the year 1841. For reasons into which we will not at present stop to inquire, the mortality in towns appears to have been less in 1841 than usual; and in the average of the four years 1838-39-40 and 41 27,073 died annually in each million in the town districts, while 19,300 only died in each million in the country districts.

We are now in a condition to form an estimate, though still an imperfect one, of the vast extent of the evil for which we must seek a remedy. If it really be, as many believe it is, quite possible by proper sanatory precautions, to reduce the mortality of towns to the same rate as that of the country districts, it follows that we have it in our power to diminish the number of deaths in the four millions of large town population by more than thirty thousand a year. But the benefit of improved sanatory precautions, though most urgently required in large towns, will not be confined to them. All parts of the country will participate, and we may estimate the number of lives which may probably be annually saved, at a number considerably exceeding that which we have named.

It is with difficulty that the mind receives the idea of numbers larger than it is accustomed to deal with. A population of thirty thousand is that of a considerable town, such for instance as Derby, Lancaster, or York Let us imagine one of these towns to pour forth all its inhabitants; let every dweller from cellar to garret appear; let every street, every alley, give up its living horde; let all, male and female of every age, from the new-born babe to the octogenarian tottering on the brink of the grave, join in the vast crowd, to give us some slight idea of the enormous multitude which we represent by the words THIRTY THOUSAND LIVING SOULS. And yet this number, vast as it is, is but a part of those who, in all human probability, might be annually saved by proper attention to the circumstances necessary for healthful existence.

But this vast unnecessary loss of life, together with the melancholy amount of suffering by which it is preceded, is a part only of the evil resulting from faulty sanatory arrangements. Each of these unnecessary deaths represents a family unnecessarily bereaved. Early orphanage with all its risks, premature widowhood with all its privations, are not among the least of the evils it is within our power to lessen. Again, it is probable that sickness and mortality have a pretty constant ratio to each other,* and that by the same means by which we diminish fatal disease, we shall in like proportion lessen that which is not destructive of life. If so, we may calculate upon a diminution of physical and mental suffering beyond that already indicated. According to the experience of the

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* That this ratio is nearly constant is probable, but by no means certain.—Any difference, however, there may be, is likely to be in favour of our argument. It is certain that many cases run their course, whether for recovery or death, with greater rapidity in country constitutions, and such cases will tend to diminish the ratio of sickness to mortality in the country. It is probable, however that the ratio is sufficiently constant for the substantial correctness of the argument in the text.

Manchester Dispensaries, (the only returns we happen to have at hand just at present,) there are 28 cases admitted for each death: if this be about the general proportion, and if the number of general cases be proportionate to the number of fatal cases, those sanatory measures which shall diminish the deaths among a population of four millions by thirty thousand, will diminish the number of cases of sickness by 28 times as much, or by more than eight hundred thousand.* It is absolutely impossible to form an adequate idea of the amount of suffering unnecessarily endured by the occurrence of such a number of avoidable cases of disease.

Enough has now been said to prove and to illustrate the magnitude of the evil we have to contend against, and we now pass on to the proof of that which we have hitherto been tacitly assuming, namely—

2. *That the Causes of the Insalubrity of Towns are removable*, or at least are susceptible of very considerable alleviation. An essential preliminary to this part of the question is the inquiry, what are the circumstances of a town-life which render it less favourable than a rural life to health and longevity? It may now be considered to be an established truth, that the possession or deprivation of the comforts of life exerts a most powerful influence upon health. Of these the most immediately affecting health are the quantity and quality of food, and probably the next most important is the degree of purity of the air we breathe. It is however doubtful which of these two great elements of healthfulness or of sickness exerts the more powerful influence. Certain it is, however, that either impurity of the air, or deficiency or unwholesomeness of food, will soon show its baneful influence in increased sickliness and a higher rate of mortality among those exposed.

The inhabitants of the towns, have for the most part, a greater command over the comforts and necessaries of life than the mass of the rural population. The general rate of wages for the former is higher, while the expense of food, clothing, lodging, and firing, is much the same as in the country; and the ease of access to efficient medical assistance when illness or accident may occur, is a further advantage which they possess; and yet we find among them a rate of mortality higher in the ratio of nearly three to two, than among a rural population. Doubtless the circumstances to which this disparity must be principally attributed are the general impurity of the air, arising from the deficiency of ventila-

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* We would not be understood as presenting this as an accurate calculation of the proportion of sickness to mortality. We have no proof that they have a *constant* ratio to each other. It is evident, however, that whatever diminishes the number of deaths must produce a still greater diminution in the number of cases of sickness; though it may not be true that the latter diminution will be proportionate to the former. If, however, it be so, as is not improbable, we may estimate the diminution by another process. According to Mr. Farr, the average number in England constantly ill is about three per cent. The rate of mortality in England is about 2.2178 per cent., that is, about 22,178 in a million die annually, and about 30,000 are constantly sick on the average. But in the country districts, where 19,300 in the million die annually, 26,110 only will be on the above supposition, constantly sick; while in town-districts, where 27,073 in the million die annually, 36,600 will be constantly sick; or in populations of four millions each, there will be forty thousand more on the average, constantly suffering from sickness in the districts of high, than in those of low mortality. Supposing the average duration of the cases of sickness to be about three weeks, or $\frac{3}{52}$ of a year, the number of annual cases of sickness will be according to this calculation, more than seven hundred thousand: a result not very widely different from that given as an approximation in the text.

tion, and the existence of collections of putrefying organic matter, joined very frequently to a deficiency in the supply of pure water for drinking, for cooking, and for personal and domestic cleanliness; to which sources of unhealthiness must be added, want of healthful out-door exercise, and habits of dissipation and intemperance, which are perhaps more indulged in when large numbers are gathered together, and which seem at least more powerfully to produce ill consequences under such circumstances.

Three of these great causes of mischief to which a town population is peculiarly exposed, are almost completely under our control; namely, the general impurity of the air we breathe in towns, the deficient ventilation of the houses, and the deficient supply of pure water; while it is quite possible very considerably to increase the facilities for that invigorating exercise and useful relaxation, the want of which is a direct cause of diminished healthfulness, by the privation of that employment of our physical organs, which is necessary for their proper development, and is also a powerful indirect cause, by almost driving those who have no access to innocent amusement, to seek relaxation from business in the excitement of dissipation.*

It is easy to understand how the air of towns attains that degree of impurity which is so perceptible to those accustomed to breathe the free fresh air of the open country. There is constantly gathering around every inhabited house a quantity of organic refuse, some of which sinks into the soil till it becomes completely saturated, another portion evaporates into the air, but the greater part remains slowly decomposing by the process of putrefaction, until but a small part is left to be carted away, from time to time, as manure to the country. When a house is detached and freely exposed to the passing winds, the small amount of organic accumulation around it so slightly contaminates the air, as to do little or no perceptible mischief. But the case is widely different when a large mass of human habitations are closely congregated together. Now the foulness of the air becomes easily apparent. Its depressing influence is felt by all who have not become habituated to its operation, and upon them its baneful power is shown by the amount of sickness and the rate of mortality.

The Report before us contains a vast amount of evidence in confirmation of this assertion. It is found in those towns where a large proportion of the inhabitants live in the midst of dirty close streets and courts, where, from deficient drainage or inefficient scavanging, unusually large accumulations of organic refuse are allowed, that in such places the rate of mortality is *universally* high. But such districts are almost exclusively inhabited by the poor; and poverty means insufficient food, clothing, firing, lodging, undue exposure to the inclemency of the weather, excessive labour, and depression of mind; and many persons have suspected that the high rate of mortality is due rather to these causes, than to the influence of the impure air which we have already mentioned. That this suspicion is not well founded, will perhaps be inferred from the fact that the rate of mortality, though certainly much influenced by the poverty of the inhabitants, bears a ratio rather to the closeness with which they are crowded together, than to the privations they

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* We rejoice to learn that the importance of provision for healthful recreation is becoming more and more generally acknowledged, and better than merely acknowledged, the conviction is being acted upon. Within the last few months we have heard of efforts making in several of our large towns, especially in the manufacturing districts, to provide parks, walks, and play-grounds for their crowded populations; and it is said that His Grace the Duke of Norfolk intends to devote fifty acres of his land as a public park for the inhabitants of Sheffield. In Manchester it is proposed to raise the munificent sum of fifty thousand pounds for this purpose by private subscription, and we are told it will be done. These are probably among the first fruits of the inquiry we are now examining.

may reasonably be supposed to endure; and also from the known effect of the influences to which we have attributed it. That such inference is correct is proved by the direct observation of the effect upon the same population, of measures which have lessened the impurity of the air by the drainage and paving of the streets, and the removal from them of the organic refuse by which their whole surface had been previously covered. The most direct evidence of this kind with which we are acquainted is furnished in the report by Mr. Holland of the sanatory condition of Chorlton upon Medlock, a portion of Manchester. Mr. Holland ascertained the number of deaths registered as occurring in twenty streets of that township before and after they had been put in proper condition by paving and sewering. He states:—

"The streets in question are inhabited by about 3,500 persons, among whom the rate of mortality was about 3.1 per cent., or 1 in 32, before the streets were paved, and 2.53, or 1 in 39, since the improvement. There seems to be no reason for supposing that the rank of the inhabitants has altered, or their number diminished. It would appear, then, that the deaths are diminished more than 20 a year out of 110, by putting the streets into proper condition. Nor shall we be surprised at the beneficial effects of such a change, when we recollect that when a street is properly paved and drained, and regularly cleansed, it becomes comparatively easy to keep the houses clean, which before was almost impossible; thence follow habits of personal cleanliness, which before could not be fostered. There is good reason to hope, therefore, that as those habits become strengthened, the beneficial influence will become still more apparent. The facilities afforded to cleanliness are also favourable to economy; clothes and furniture last longer, provisions will keep better, hence there is less waste; and in various ways the scanty income of the poor is made to go further. The different moral effects of living in the midst of dirt or uncleanliness, are too evident to require mentioning."—*Appendix to Report*, p. 63.

We need not be surprised at the effect upon the rate of mortality of a town produced by physical causes of the nature of those above referred to, when we learn to what an extent they are allowed to exist, and the large proportion of the inhabitants who are exposed to their operation. For example, Liverpool has the highest rate of mortality of any town of England; thirty-five in each thousand of her inhabitants perish annually, fifteen or sixteen per thousand more than die in rural districts, and eight or ten per thousand more than die in moderately healthy towns, such as Birmingham, Chester, Leeds, Manchester, &c., all of which have a higher rate of mortality than is at all inevitable. And yet Liverpool has natural facilities of healthfulness greater than any other town so large with which we are acquainted. The explanation of this anomaly is at once supplied by Dr. Duncan's very excellent Report, in which he states that 55,534 out of 223,054 of the inhabitants of the parish of Liverpool in 1841, or more than one-fourth, lived in courts, of which the following is a general description.

"The courts in which so many of the inhabitants of Liverpool reside, consist usually of two rows of houses placed opposite to each other, with an intervening space of from 9 to 15 feet, and having from six to eight houses in each row. The court communicates with the street by a passage or archway about three feet wide,—in the older courts, built up overhead; and the further end being also in many instances closed by a high wall or by the back or side of an adjoining building, the court forms in fact a cul-de-sac with a narrow opening. Such an arrangement almost bids defiance to the entrance of air, and renders its free circulation through the court a matter of impossibility. When other circumstances, to be afterwards mentioned, are taken into account, such as the dense population and abominably filthy state of many of the courts, it is easy to understand in what way the construction of these dwellings may contribute to swell the mortality of Liverpool. The houses themselves are three stories high, contain three rooms of about 10 or 11 feet square, and being built back to back with the houses of

adjoining courts, there is of course no thorough draught. An enumeration of the court and cellar population of the borough was made two years ago, under the authority of the Town-Council, when it appeared there were, in the parish of Liverpool—

Courts.		Houses.		Inhabitants.
1982	containing . . .	10,692	and . .	55,534

that is to say, more than one-fourth of the whole parochial population, or more than one-third of the working classes, were residents in courts. With regard to the character of these courts, it appears from the Report of the Corporation Surveyors, that 629, or nearly one-third, were closed at both ends; 875, or less than one-half, were open at one end; and only 478, or less than one-fourth, open at both ends."—*Appendix*, p. 14.

But in addition to the one-fourth of the inhabitants who pass their existence under circumstances so unfavourable to health as those above described, we find that nearly one-tenth of the whole number, or one-eighth of the remainder, live in under-ground apartments, or cellars, of which the following is the description.

"The cellars are 10 or 12 feet square; generally flagged,—but frequently having only the bare earth for a floor,—and sometimes less than six feet in height. There is frequently no window, so that light and air can gain access to the cellar only by the door, the top of which is often not higher than the level of the street. In such cellars, ventilation is out of the question. They are of course dark: and from the defective drainage, they are also very generally damp. There is sometimes a back cellar, used as a sleeping apartment, having no direct communication with the external atmosphere, and deriving its scanty supply of light and air solely from the front apartment.

"The enumeration already alluded to showed that there were, in the twelve wards forming the parish of Liverpool,

Inhabited Cellars.		Inhabitants.
6,294	. . . . .	containing 20,168

exclusive of the inhabited cellars in courts (of which there were 621, containing probably 2000 inhabitants). From pretty extensive data which I have in my possession, I should be inclined to think these numbers, both of the court and cellar population, to be under the mark; but, as they profess to be from actual enumeration, I am of course bound to take them as I find them.*

"Of the entire number of cellars, 1617 have the back apartment I have mentioned; while, of 5297 whose measurements are given, 1771, or one-third, are from five to six feet deep, 2324 are from four to five, and 1202 from three to four feet below the level of the street: 5273, or more than five-sixths, have no windows to the front; and 2429, or about 44 per cent. are reported as being either damp or wet.

"The streets inhabited chiefly by the working classes, are on an average perhaps about eight yards in width: they seldom exceed ten, and are sometimes not more than five yards across. Each house is usually occupied by two or more families, exclusive of the cellar, and most of the densely peopled lodging-houses are situated in the streets. As a general rule, the houses have no thorough draft, from being frequently built up against the houses in the courts behind."†

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* Possibly casual lodgers have been omitted in the enumeration.—*Appendix*, p. 14.

† That we are correct in attributing a large part of the excessive mortality of Liverpool to the fact of so large a proportion as one-fourth of her inhabitants living in courts in which free circulation of air is impossible, is justified by general

The above extracts give an ample explanation of the high rate of mortality in Liverpool. They prove also beyond all question, that it is quite within our power to diminish very materially that excessive mortality. That it is alike our interest and our duty to exert that power requires no proof.

We have now shown by two examples (which we consider sufficient, otherwise we might bring forward an almost indefinite number of similar cases), that excessive mortality is produced by the impurity of air arising from organic accumulations, and that such excessive mortality is diminished by the partial removal only of the cause to which it has been attributed. We cannot then resist the conclusion, that if such accumulations and the consequent impurity of air which they produce be entirely removed and completely prevented for the future, a still further diminution may confidently be anticipated; and we cannot doubt that if, by a complete system of drainage and an ample flow of water, all organic refuse were at once swept into the sewers and carried to such distance as that its emanations could be no longer hurtful, a most marked improvement in the public health would inevitably follow. The utility of sewerage has never yet been fully developed. It has been considered hitherto as the means merely of getting rid of the service water only, while its far greater utility in preserving for us the purity of the air, has been almost entirely neglected.

It is not common indeed for provision to be made for even the internal drainage of houses at all. According to the Commissioners' Report:—

"The witnesses state that, for the most part, the usages at present prevailing, and the by-laws in force under the authority of these statutes, have been (until two or three of the Commissions in the metropolis adapted their sewerage to the house drainage), framed with a view to the maintenance of the drainage of surface water only, and without reference to that system which is now admitted by all the medical witnesses to be of the greatest importance to the public health, to the condition of the poorer classes, and the salubrity of their dwellings, namely, house-drainage and sewerage, and the constant removal of all decomposing vegetable or animal refuse, much of which might be effected by means of the proper application of water.

"In some of the large and most crowded towns, all entrance into the sewers by house-drains, or drains from water-closets or cesspools, is prohibited under a penalty. In other places, including a part of the metropolis, the entrance of house-drains is commonly deemed the concession of a privilege, subjected to regulations and separate proceedings, with attendant expenses, tending to restrict the use of the sewers for these most important purposes, or to confine the advantage to the wealthy.

"In the local Acts we have examined, and in the by-laws and usages in force under their authority, the use of the main drains is restricted under penalties from that which, if they were properly constructed and sufficiently supplied with water, it is stated, might be one of their most important services—namely, the

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experience, even were direct proof of extra mortality in such localities absent. But we are not entirely without such direct proof, though it is scanty. Mr. Holland has ascertained that out of about 2,500 persons inhabiting open streets, 424 died in five years, or 3.4 per cent. per annum; while out of 1,800 other persons inhabiting courts or streets built up at one end, 387 died in the same time, or 4.3 per cent. per annum. In other words, nine per thousand more died each year among those upon whom this cause of ill health operated most powerfully. In all other respects, except closeness, the streets and houses were as nearly as possible in similar condition, and were inhabited by persons in the same rank of life, namely, the poorest classes. It is possible, however, that the very poorest were driven into the least eligible situations, to which circumstance perhaps some of the extra mortality may be attributed.

rapid, efficient, and economically cleansing of a town of surface refuse, mud, and filth.

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"It appears from the unanimous statement of the visiting Commissioners, in addition to an examination of the replies of the fifty towns on the subjects of drainage and cleansing, that in scarcely one place can the drainage or sewerage be pronounced to be complete and good, while in seven it is indifferent, and in 42 decidedly bad as regards the districts inhabited by the poorer classes. The investigations within the several towns of the arrangements for house as connected with street cleansing, present nearly the same results.

"It appears that the local statements and opinions on what is deemed to be good, can only be received with reference to the imperfect standards known in those places. In the answers it is often stated that the drainage of a town is good, where it has been found that only the principal streets have main drains or sewers, and where the houses in those streets are but imperfectly provided with house or branch drains; while the most crowded portions of the town, those most densely inhabited by the poorer classes, are utterly neglected, and have no drainage, the refuse being allowed to accumulate and decompose in open channels and pools, or to run into open and stagnant ditches in the immediate vicinity of the houses.

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"The medical witnesses have brought before us facts in support of their strongly urged and unanimous opinion, that no population can be healthy, which live amid cesspools, or upon a soil permeated by decomposing animal or vegetable refuse, giving off impurities to the air in their houses and in the streets. They state the necessity of preventing all accumulations of stagnant refuse in or near houses, and of substituting a system of house-drainage and cleansing, aided by the introduction of better supplies of water into the houses. They have brought forward instances where the main drains or sewers were tolerably well formed, and subordinate or house drains attached, but where, from the want of properly directed supplies of water, both house-drains and sewers only acted as extended cesspools."—*Report*, p. 10.

The evident truth of this is allowed at once. We at once perceive how barbarous is the custom of allowing fæculent matter and foul water, and refuse and filth of all sorts, to lie decomposing on the surface of the ground, poisoning the air with their fœtid effluvia. We unhesitatingly condemn as hurtful, practices such as that described in the Rev. Mr. Clay's Report of Preston, in which an example is given of two rows of cottages between which there is an open cesspool, receiving all the filth from twenty-two houses and privies. In this cesspool the filth remains putrefying, until the receptacle is full, or until the manure-gatherers (the muck-misers as they are quaintly called) find it their interest to carry it away. We see at once that such a practice must be injurious to the health as it is to the comfort of the surrounding inhabitants; and yet it is but a slight exaggeration of the custom which is all but universal—that of keeping in cesspools or middens, closed or open as the case may be, large accumulations of every sort of abomination. Nor is the empoisoning of the surrounding air the only evil, great as that is. The liquid filth often finds its way by filtration to the foundations of the houses, and cellars, and so may pervade the whole dwelling. Nay, sometimes it even reaches the springs of water, and renders them foul and even fœtid. When the evil reaches this extent, it is less dangerous than when in a less evident degree, for now another supply of water must be sought. There can be little doubt that the use of water for drinking or cooking so contaminated as to be perceptible to a delicate taste only, but bearable to those accustomed to it, will gradually undermine and destroy the health. Another evil even more injurious is indirectly produced;—that of discouraging water drinking, and fostering the habitual use of stimulating beverages. Dr. T. Clarke of Aberdeen University remarks on this point—

"There is one very obvious consideration as regards the health of the inhabitants, that if you have water not fit for drinking, in which there is matter offensive in any degree, by so much as the water is offensive you lessen the habit of drinking water. Now, you cannot restrict the supply of water to such quality as is naturally repulsive: you cannot thus render the inhabitants abstinent from water, without interfering with the healthful functions of their bodies. It was with no small concern that I learned how few of the inhabitants of London, and especially of the lower orders, drink water. In making my experiments upon these waters, when I inquired of the servants about me how they liked particular waters, it was with particular surprise I discovered that they—generally mere lads—knew nothing about the taste of the water. They are the same sort of persons as would be accustomed to drink water in other places, but they have other beverages here. I should perhaps not speak as to the general habits of the inhabitants, but only of what little I have observed in such circumstances."—*Dr. T. Clark's Evidence, p. 7.*

Some of the direct evils of the present common arrangements are thus pointed out in Mr. Holland's Report.

"Sometimes the midden of a necessary is separated from a house by a wall only, which is not always impervious to liquid. I have known instances, where the wall of a dwelling-house has been constantly wet with fœtid fluid, which has filtered through from a midden, and poisoned the air with its intolerable stench; and the family was never free from sickness during the six months they endured the nuisance. Instances in which fœtid air finds its way into the next dwelling-house are not unfrequent. I know an instance (and I believe there are many such) where it is impossible to keep food without its being tainted for even a single night in the cupboards on the side of the house next to the public necessary, and where the fœtor is offensively perceptible always, and is oppressive in the morning before the door is opened."

In another part of this Report a back street is described "about 4 feet wide and not 300 long in which there are 38 necessaries, each with an open midden. The street being too narrow to admit a cart, the manure has to be carried in wheelbarrows, and much of it is spilt during this tedious operation, and the passage is not generally carefully cleaned afterwards. Each of these middens will contain more than a ton of manure, and as they are not emptied till they are full, there will be on the average in each more than half a ton, or nearly 20 tons of decomposing filth in the very confined space between two rows of houses only about five yards apart, a space including the yards, of less than 500 square yards. It is evident that the only complete remedy is to prevent the accumulation of manure in such large quantity in the immediate neighbourhood of dwellings, by washing it away into the sewers; that is, by the erection of water-closets in all cases where houses are built closely together."

The adoption of this very effectual remedy need not, we are informed, cost more than two pounds for each house.

We shall not enter upon the consideration of the best mode of completely getting rid of all the refuse matter of towns. The evidence in favour of employing it by means of foul water irrigation appears to us exceedingly strong. This is a point, however, for the determination of the engineer rather than of the physician, and to him we leave it, merely reiterating our conviction, that all accumulations of refuse matter in the neighbourhood of dwellings closely congregated together, must be prevented at whatever sacrifice of money, unless we would submit to the far more extravagant sacrifice of comfort, health and life.

A very large portion of the excessive mortality of towns arises from the cause we have already mentioned, an impure state of the air generally: but it is perhaps still more owing to causes existing within individual dwellings. Of the general absence of house drainage we have already spoken; the next great evils are over-crowding, and the want of ventilation, especially in bed-rooms. The

difference in the rate of mortality among the inhabitants of well-constructed dwellings, and among those living in houses of an opposite description, built back to back, with only one door, and generally two rooms only, is very remarkable. The most unexceptionable evidence on this point which has come under our notice is furnished by Mr. Holland's Report. He has made an analysis of the deaths registered during five years as occurring in each individual street of Chorlton upon Medlock, which is a section of Manchester. The streets were divided according to their condition into three classes, first, second, and third, each of which classes were subdivided into three other classes, according to the character of the dwellings, thus making nine subdivisions. The number of inhabitants of each street was computed from the number of inhabited houses, taking the same ratio in each, between houses and inhabitants as was ascertained by the Census. From the number of deaths occurring in each, the rate of mortality among the inhabitants is easily calculated. The results are exhibited in the following Tables.

"The following table (1) exhibits the proportion per cent. of each class of streets and of houses, in which the rate of mortality has been, during the last five years, below 2 per cent. per annum, between 2 and 3 per cent, and above 3 per cent.

TABLE I.

Class of Streets.	Class of Houses.	Proportion per cent. of Streets in which the Mortality has been			Examples of Classes of Streets and Houses.
		Below 2 per cent	Between 2 & 3 per cent.	Above 3 per cent.	
1st.	1st.	50	50	„	Oxford-street, Grosvenor-street. Sidney-Street, Rutland-street.
	2d.	20	65	15	Greek-st., Clarendon-st., Chatham-st.
	3d.	„	33	67	Charles-street, York-st, Chester-st.
2d.	1st.	54	39	7	Angle-street, Carver-st., Prospect-st.
	2d.	30	30	40	Ann-street, Benton-st., Caygill-street.
	3d.	14	43	43	Cross-street, Evans-st., Rathbone-st.
3d.	1st.	„	„	„	None of the third-class of streets have first-class houses.
	2d.	„	50	50	Bell street, Mark-lane, Charlotte-st.
	3d.	„	20	80	Medlock-street, Makin-street, Bury-street, Burns-street.

"Inspection of the above table will show how constantly a low rate of mortality has accompanied a good condition of streets and dwellings, and a high rate of mortality the contrary condition. Among the inhabitants of the first class of houses and streets, it will be seen that in none has the rate of mortality exceeded 3 per cent.; and of the second-class houses and first-class streets, in 1 in 15 only has it risen above that amount. But of the third-class houses, in 67 per cent. of the first, 43 per cent. of the second, and 80 per cent. of the third-class streets, has the rate of mortality exceeded 3 per cent.; while in some particular streets it has been twice that amount Among the worst are Bury Street, Burns Street, Heyes Street, Dorning Street, Medlock Street, Tebbutt's Court, Wilson Street, Woburn Place, Back Temple Street, Back Kay Street, Allen Street, and Bond Street. All of these streets have some evident defect; the seven first mentioned are not thoroughfares, and are built up, or nearly so, at one end; all of them are unpaved and undrained; the houses are built back to back, and have no back doors. They are all of them little better than courts.

"It will further be observed, that in none of the worst-conditioned streets has the rate of mortality been lower than 2 per cent., whilst those of the best condition a considerable proportion have had a lower rate of mortality; and further, of the worst-conditioned streets, in half of those with second-class houses, the mortality has been less than 3 per cent., while of those with third-class houses, four-fifths have had a mortality exceeding that amount.

"These facts present a striking illustration of the ill effects of badly conditioned dwellings and streets, but still more strikingly exhibit the destructive influences of poverty, as shown by the high rate of mortality among the inhabitants of low-rented houses.

"The following table (2) exhibits the rate of annual mortality in the different classes of streets, of the town part of Chorlton upon Medlock, in the average of the five years ending June 1843. The amount of the population of this part of the township is computed at 24,682; among whom there have been 3235 deaths, or 647 a year, being an average annual mortality of 2.6 per cent., or 1 in 38. The rate of mortality in the different classes of streets will be seen to differ very widely.

TABLE II.

Class of Streets.	Class of Houses.	Computed Population.	Rate of Mortality. (For examples see Table 1.)
			Per Cent.
1st	1	5153	1.95. or 1 in 51.
	2	4350	2.2. .. 1 45.
	3	980	2.7. .. 1 36.
2d	1	1431	1.8. .. 1 55.
	2	5094	2.6. .. 1 38.
	3	2780	2.8. .. 1 35.
3d	1	„	„ „ „
	2	820	2.8. .. 1 35.
	3	4074	4. .. 1 25.

TABLE III.

Exhibiting the Rate of Mortality in Different Classes of Streets, the houses being of all rates.

		Excess per cent. above first-class streets.
Streets of First Class	2.2 per cent., or 1 in 46	..... „
Second	2.6 „ 1 39	 18
Third	3.7 „ 1 27	 68

TABLE IV.

Exhibiting the Rate of Mortality among the Inhabitants of different Classes of Houses, the Streets being of all Classes.

	Rate of Mortality.	Excess per cent. above first-class houses about
Houses of First Class	1.9 per cent., or 1 in 52	..... „
Second	2.5 „ 1 in 40	 31
Third	3.4 „ 1 in 29	 78

"From comparison of these tables it would appear that the rate of mortality is more influenced by the class of house inhabited, than by the condition of the street. For we find that the mortality in the first, second, and third classes of streets, the houses being of all classes, has been in the proportion of 100, 118, and 168: but in the houses of the first, second, and third classes, the streets being of all classes, that the proportion of mortality has been 100, 131, and 178; there is therefore a greater difference in the rate of mortality among inhabitants of different classes of houses, than in those of streets of different condition. When, however, the evil influences of both badly-constructed dwellings and of badly-conditioned streets operate together, the effect is very striking. For instance, the third-class houses of the first, second, and third-class streets are nearly alike in construction, are about the same size, are charged about the same rent, and are inhabited by about the same class of persons; but the rate of mortality in the third-class houses in first and second-class streets, has been 2.7 and 2.8 per cent. respectively, while in those of the same class of houses, but in third-class streets, the rate has been 4 per cent., or a higher rate of mortality, in the proportion of 10 to 7. I am aware of no circumstances but those connected with the bad condition of the streets, which will account for this great difference.

"It may be thought that these streets are inhabited by a poorer class than the others, but I do not believe that that is the fact, except so far as their poverty is increased by the expenses of sickness and death in their families, and by consequent loss of work. Their incomes while at work must be much the same, for they have the same sort of employments. There seems every reason to hope that if these worst streets were put into good condition, the rate of mortality would fall 25 per cent., or more. The diminution in the rate of mortality has been nearly 20 per cent. in the streets which have been improved; as before stated, it has fallen from 3.1 per cent, or 1 in 32, to 2.53 per cent., or 1 in 39; the effect of a permanent good condition, as we have just seen, appears to be still more beneficial; and there can be no doubt that if the houses, as well as the streets, were put into proper condition, the rate of mortality would fall still more. It is, indeed, unreasonable to expect that the general state of health and longevity of the poor can be raised as high as that of those in more comfortable circumstances by any, the best, sanatory arrangements, but I think the evidence here adduced distinctly shows that the rate of mortality, among the poor certainly, among all classes probably, is unnaturally high, from the operation of removable causes of disease.

"When we find the rate of mortality four times as high in some streets as in others, and twice as high in whole classes of streets as in other classes, and further find that it is all but invariably high in those streets which are in bad condition, and almost as invariably low in those whose condition is good, we cannot resist the conclusion that multitudes of our fellow-creatures, hundreds of our immediate neighbours, are annually destroyed for want of the most evident precautions."

We have spoken of the two principal evils attending household arrangements, the destructive effects of which we have here in evidence, as being over-crowding and bad ventilation. The first of these is to a great extent an unavoidable evil. It results from poverty, and is one of the means by which poverty acts destructively upon health. The want of ventilation in houses is to a great extent remediable: and when its vital importance is properly understood, we doubt not the evil will be considerably alleviated.

The next great evil is dirtiness. This arises in a great measure from a deficient supply of pure and soft water. When cleanliness is of very difficult attainment, many persons give it up as hopeless, and a gradual deterioration in the habits of the people is an observed consequence of such difficulty. We have no means of estimating the exact amount of unhealthfulness arising from this

cause; we have however some very satisfactory evidence of the beneficial effect of household cleanliness. The police authorities of Edinburgh, alarmed at the rapid spread of fever in the Autumn of last year, empowered Mr. Ramsay their Inspector, to cleanse, fumigate and whitewash at their expense, all dwellings where fever had occurred or was likely to occur, if the occupants made no objection. It appears that no opposition was experienced; that during two months, 303 staircases, 898 rooms, 248 closets and 894 passages; in all 2,443 places were lime-washed and cleansed, at a total expense of about 42*l.* or four-pence farthing each. Up to the date of the Report, one fresh case of fever only had occurred in any of the houses which had been cleansed! We must not expect to prevent the occurrence of fever by such means as this alone, but that we might thus very much diminish both its frequency and its virulence, experience has established beyond all question.

The evidence we have hitherto presented has been to the effect that disease generally is greater in those districts where the causes to which we have attributed its excess, exist in the greatest power, from which we infer that its excess is legitimately attributed to those causes. In confirmation of this inference, or rather in illustration, for confirmation cannot be required, we will now proceed to show that those particular diseases are most prevalent in towns which are well known to be frequently excited and always aggravated, by the same circumstances to which we have attributed the excessive mortality of densely-populated districts—foul air and deficient ventilation. By foul air we would be understood to mean, air polluted either by the products of putrefying refuse, vegetable as well as animal, or charged with the emanations of living bodies, whether in the state of health or of disease; for they are injurious in either condition, though of course the effect of the latter is by far the most powerful. What is the exact nature of these emanations is entirely conjectural, nor is it necessary for our present purpose to inquire: it is sufficient to know that they exist, that they may be, if not dissolved, suspended in the air, and that they act injuriously in proportion to their degree of concentration: indeed they do not appear, when sufficiently diffused, to produce any evil consequences whatever.

As we formerly stated, the rate of mortality among the inhabitants of town districts has been, during four years, 27,072 per million, while it has been only 19,300 per million in those of the country. The following are the causes of death which, according to the return before mentioned, have been most remarkably more destructive in the town districts These are first the whole class of Zymotic*, (or epidemic, endemic, and contagious) diseases, from which nearly twice as many have perished in the towns as in an equal population in the country.

The following Table shows the numbers per million who have died from the following disorders of this class.

	Town.	Country.
Small-pox - - - - -	1045	507
Measles - - - - -	914	364
Scarlatina - - - - -	988	478
Hooping-cough - - - -	829	415
Diarrhœa, Dysentery, and Cholera	385	196

* From Ζυμοω, I ferment. Morbid processes are somewhat analogous to fermentation. Sugar or gluten is excited to fermentation by the addition of a minute portion of matter (yeast) in which that process has already commenced; so also peculiar forms of disease are excited in constitutions prone to such process by the addition of morbific matter arising from existing disease in some cases, or of organic matter in a state of *eremacausis*, in others. See Liebig's Chemistry of Agriculture and Physiology. Chapter xiii.

Typhus	1254	993
Erysipelas	133	53

There are, perhaps, no diseases which are more influenced by the condition of the air than those of the above list, in which the difference in the mortality in town and country has been so glaringly apparent. As is well known, not only is the number of cases of such diseases diminished by free ventilation, but still more remarkable is the effect of such influence on their severity when they do occur. With respect to Measles, Scarlatina, and Hooping-cough, it frequently happens that, when they occur under good sanatory conditions, they are so slight that they may rather be considered as changes through which the constitution is passing, than diseases: not so, however, is it when they occur under opposite conditions, in unhealthy localities: then indeed, as every practitioner knows by sad experience, they are often most unmanageable and formidable.

The diseases of the nervous system have been, as would be expected, much more destructive in town than in country districts; 4,267 fatal cases per million living, having occurred in the former, and 2,256 in the latter. The following table exhibits the proportion of deaths from particular diseases of this class.

	Town.	Country.
Cephalitis	267	111
Hydrocephalus	876	334
Convulsions	2000	852
Delirium tremens	27	10

In other diseases of this class the difference is less remarkable. It will be at once perceived that causes likely to produce the above diseases, act with peculiar force upon a town population.

The deaths from diseases of the respiratory organs are excessive in the towns in nearly the same proportion as the general mortality. The deaths have been 7,967 to 5,327, almost exactly 3 to 2.

Asthma and diseases of the heart have been more frequent in the towns in the proportion of 1080 to 406.

The following table exhibits the other diseases in which the greatest disparity has been shown.

Annual Mortality to 100,000 *living.*

	Town.	Country.
Teething	616	120
Gastritis and Enteritis	660	360
Childbirth	221	137
Disease of the Uterus	43	23
Old Age	1943	2676
Intemperance	19	7

The cases of deaths from phthisis are 4,463 in the towns, and 3,660 in the country, to each million living, or less than the proportion of deaths from all causes. We do not believe in the correctness of this result; we are sure that the disease is more common in towns than this would indicate. Two circumstances contribute to diminish the apparent *proportionate* mortality from consumption in towns; one is the frequent removal of consumptive patients into the country, and therefore an increase of deaths from phthisis there; the other is the more careful distinction by the better educated town registrars of cases of bronchitis and pneumonia from those of phthisis. We find from the tables that the deaths from these diseases have been 2,304 to 1,088, and we have little doubt that many

of these cases would, had they occurred in the country, have been registered as consumption. We think it may fairly be assumed that the registrars in the towns do generally discriminate more carefully, for we find that they have left the cause of death unspecified in one case in 80 only, while the country registrars have done so in one case in 33: besides, it is reasonable to expect that a higher class of men may be procured for the more populous and more remunerative districts.

Upon reviewing the above evidence of the diseases which have been peculiarly fatal in town districts, it will be perceived that they are exactly those which we should, *a priori*, expect to occur, in localities in which the causes to which we have attributed the excessive mortality of towns exist in a powerful degree. First, we find a large excess of zymotic diseases, the frequency of occurrence and severity of which would be certainly increased by the crowding together of many persons in limited space with deficient change of air, and by foul emanations: next, we should expect a large excess of fatal diseases of childhood—these will be principally registered under the heads of teething, convulsions, hydrocephalus, pneumonia, diarrhœa, and the eruptive diseases: and from all of these we find that there has been an excessive fatality in towns. Phthisis is the next disease which we should expect to find peculiarly destructive in badly conditioned districts: that it has been so we do not doubt; why it does not *appear* from the tables to have been peculiarly so, we have already remarked upon.

It will now be perceived that we have, by two distinct routes, arrived at completely correspondent conclusions. We first of all showed, that wide-spread causes of disease do exist in the districts known to be most unhealthy, and that the rate of mortality was higher where they exist in greatest intensity; and we have now shown, that the particular diseases which have been most destructively fatal in such districts, are the very same which we should have expected such causes especially to produce. It will not be denied, that to attribute them to these causes is a philosophical inference, nor that to prophesy their diminution proportionate to any diminution of these causes which can be effected, is a certain prognostication. That the causes are to a great extent removable, has become evident as each was mentioned. It now only remains for us to show:

3. *That the cost of their removal would impose no inordinate burden upon those who would have to bear the expense as well as receive the benefit to be conferred.*

The length to which this article has already extended compels us to make our remarks upon this head very brief. Moreover, though it is an essential part of the question, it is not the part likely to be particularly interesting to professional readers.

If the alterations required were such as to add very considerably to the expensiveness of a poor man's dwelling, the effect would be that the rent being too high for one family to afford, two or more families would crowd into the space which one now occupies, and so the evils that would be produced, would be greater than those which we seek to remedy. This, however, is far from being the case. The expense of the improvements which are most urgently required and which would most materially increase salubrity if adopted, would when divided amongst the large number to be benefitted, be perfectly insignificant; and we think it would not be difficult to show that the mere pecuniary saving resulting from the improved health, increased energy and prolonged life which may be confidently prognosticated, would far exceed any probable cost. We speak here of the direct pecuniary saving only. The loss which the community now unnecessarily submits to from the existence of removable causes of disease shows itself in increased suffering, diminished energy, debased morality and premature decay and death of the immediate victims, and in early orphanage, widowhood, bereavement, and not rarely pauperism, endured by their family and friends. It is absurd to think of estimating the value of precautions to diminish

evils such as these, in pounds, shillings, and pence; nevertheless it may not be without its value to reckon the money, cost and gain, as a part, though only a subordinate part, of this most important question.

The Report contains several proximate estimates of the expenses likely to be incurred to place towns in a satisfactory sanatory condition. Two of these, one by the Rev. Mr. Clay, of Preston, the other by T. R. Coulthart, Esq. of Ashton, appear to be drawn up with great care; and from these we will compile one of the probable cost of sanatory improvements for a town of a hundred thousand inhabitants.

1. Judging from general experience, it may be expected that about one-half of the houses will require to be supplied with water, and that the expense of laying down the pipes will be about 10s. for each house, or £5000. for the ten thousand houses requiring such provision.

2. A larger supply of water is really necessary for health than is generally considered sufficient for household purposes, and a larger reservoir or greater expense for pumping may be required to provide this extra supply. From the evidence it appears that £400. a year is ample allowance for this extra cost.

3. Main sewers.—Assuming that in other towns a proportionate expense must be incurred in drainage as will be required in those from which this estimate is drawn up, we must allow about £5,000. for main sewers, which would be repaid, principal and interest, in thirty years, by an annual charge of £325.

4. The secondary drains, on the same supposition, £39,198. must be allowed to be also repaid in thirty years at £2,560. a year.

5. In most towns the want of house drains is nearly universal. The expense would be about 15s. for each house, or £15,000. for the whole town, which would be repaid at £975. a year.

6. The purity of the air of towns can never be properly secured until the use of water-closets is universal, or nearly so, and all deposits of excrementitious matter near the houses entirely prevented. It is in evidence that cheap but efficacious apparatus of this nature can be fitted up at an expense of £2. which, for a town of twenty thousand houses, would cost £40,000. This sum would be repaid with interest in twenty years, at £3,200. a year, or 3s. 2½d. for each house.

7. Mr. Toynbee, Surgeon of St. George's and St. James's Dispensary, has described a simple apparatus for ventilation, being merely an opening in each room with a valve, which may be constructed at an expense of 3s. or 15s. for a house of five rooms. For a whole town the expense would be £15,000. and would be repaid in twenty years, by £1,200. a year, or 1s. 2¼d. each house.

8. The cost of street sweeping, by Whitworth's machine, in Chorlton upon Medlock, which has 28,000 inhabitants, is £650. a year; in the same proportion it would cost £2,321. for a town of 100,000 inhabitants.

9. A considerable outlay might be made, with real economy, for opening out streets and removing obstructions to the free circulation of air. Let us suppose that even so large a sum as £40,000. be so expended, which is far more than ought to be required, or than would be if the welfare of all were justly considered in the general planning of a town, the interest of this sum, at 5 per cent., would be £2,000. a year, or 2s. for each house.

10. No town can be considered to have complete arrangements for securing the health of its inhabitants, where ample provision is not made of places for healthful exercises and recreation. Let us assume that £1000. a year will be required as ground rent and cost of maintenance of public parks, walks, or play grounds.

11. The superintendence of an officer to keep a watch over, and direct the removal of causes of disease, and to point out all available means for securing the general welfare, we consider indispensable for fully carrying out the sanatory measures required. So great, indeed, is the general ignorance and consequent apathy upon subjects such as this, that the hope of effecting any great improve-

ment without making it the professional duty of a competent officer to attend to it, is a mere chimera. The office might be made one of great honour, and need not be one of great emolument. A salary of 300*l.* a year would probably be enough to secure the services of an efficient man.

We have now enumerated all the principal items of expense for the sanatory improvements required, of which the following is the summary.

	Total expenditure of Capital.	Total annual expenditure, with interest and re-payment of capital.	Number of houses for which the respective improvements are required.	Additional annual rent per house.
	£.	£.	£.	s. d.
1. For water pipes'	5000	400	10000	9½
2. For extra supply of water		400	20000	4½
3. Main sewers	5000	325	..	4
4. Secondary drains	39198	2560	..	2 6½
5. House drains	15000	975	..	11½
6. Water-closets	40000	3200	..	3 2½
7. Ventilating apparatus	15000	1200	..	1 2½
8. Scavenging		2321	..	2 3½
9. Opening out streets	40000	2000	..	2 0
10. Ground rent and cost of maintenance of public parks, playgrounds, &c.		1000	..	1 0
11. Inspector of public health		300	..	3½

We see then that the above very essential improvements may be paid for at a probable annual expenditure of 14,681*l.*; which divided among 100,000 persons is less than three shillings each. This expense for sanatory improvements would be equivalent to an addition to the rental of each house of about 15s. a year, or 3½d. a week, a sum so small as not to be felt burdensome even by the poorest. Nay, even should twice or three times this amount be expended, fully to carry out all the improvements required, the cost would still be far below the mere pecuniary benefit which would inevitably result.

We will now enumerate a few of the principal items of pecuniary saving which may be anticipated. As has been already stated, the ordinary number of deaths in a town population of 100,000, will exceed those of a like number residing in the country by nearly eight hundred a year, (2700—1930=770.) From the evidence we have already adduced, we think it will be allowed that it is not unreasonable to expect that two-thirds of this excess, at least, would be prevented by such sanatory improvements as we have above enumerated. Such a diminution of the deaths would be accompanied by a direct saving of the expenses of more than 500 funerals, which, at the very low estimate of 5*l.* each, amounts to the sum of 2,500*l.* If, as is not improbable, the sickness would be diminished in the same proportion as the deaths, there would be about 14,000 fewer cases of sickness, accompanied by a saving of about as many pounds in money. Supposing each case of sickness to last on the average three weeks, which is about the truth, the loss to the family in expenses of medical attendance, medicine, &c.,

and in loss of wages of the sick, and of time of the attendants, cannot be less than the twenty shillings we have allowed.

To these large items of expenses saved must be added perhaps half of what is now spent by the public for the maintenance of widows and orphans—expenses which would not be incurred were their natural protectors not cut off by premature death. The amount of this most satisfactory saving would be about £6000 a year.

To these must be added a sum for increased productive power of a more healthy population. Of the amount of this we can form no estimate; nor is it at all necessary to add more, to prove that the sanatory improvements we advocate are alike demanded by real economy and true philanthropy.

To the economists another consideration may be urged. After orphanage and widowhood, sickness and weak health are the great causes of pauperism, and all these are increased by insalubrity. Anything which shall considerably diminish insalubrity, will therefore cause a very great diminution of pauperism, and consequent saving in poor-rate.

There may be some whom it is not undesirable to remind, that it is often far *cheaper* to prevent the causes of unhealthfulness, than to relieve the distress that it occasions. That it is far wiser to do so, all will agree.

The Superstitions connected with the History and Practice of Medicine and Surgery. By *Thomas Joseph Pettigrew*, F.R.S., F.S.A., &c. &c. &c. 8vo. pp. 167.

In this utilitarian age the literature of the profession runs a risk of being confined to weekly Journals, manuals for students, practical compendiums for medical readers, and popular or quasi-popular works for the public. Theory is not to the taste of the day, which has outgrown it—discovery is becoming something like an impossibility—transcendentalism and German mysticism itself has got a bottom, which we *must* touch before long—the microscope has magnified till it can magnify no longer—and chemistry, with its seemingly inexhaustible crucible, seems the only store likely to hold out.

However, with all our "practical" tastes, we have many of us time enough (and something more) to turn over the leaves of such a book as this, and smile or sneer, as our humour may be, at the follies of those who have gone before us. Buried follies no doubt—the credulities that wait on ignorance, and such as are scarcely likely to revive. But civilization has its superstitions, science has its mysteries and its fanaticisms too, the human mind is not purged, and we dare say it never will be, of that love for authority, confidence in bold assertion, and liking for the marvellous, which have made men in all times the tools and dupes of quacks in physic, religion, and politics. In this enlightened nation, priding itself upon its arts, and arms, and all that springs from civilization and refinement, the machinery for taking the reason prisoner, for enslaving the mind to dominate the body, for quackery, in short, and humbug, is in as active operation, though more subtly worked, as in a Byzantine palace or a Papal Court. The actors are changed, the dresses are different, the piece is cut

down from a play to a farce, but the plot is similar, and the denouement is the same.

No doubt there are those who entertain a more consolatory and more flattering opinion of the progress of the human mind. They talk of the enlightenment of the age, and really believe that it is superior to bigotry and prejudice. Perhaps they cite, in support of their view, the miracles of Hoenlohe, Irving, and the Mesmerists, the cures of Morrison, and the wonders of Homœopathy and of Hydropathy.

For our own parts we are less sanguine. The mass of men will, we fear, be enslaved by names, and the willing dupes of their own inclinations and of others' arts. They have, at all events, no great right, at present, to laugh at the credulousness of their fathers.

Mr. Pettigrew's book is amusing to such as are inclined to smile, and instructive to those who are willing to reflect. The reader should sit down to its perusal, with the motto—"mutato nomine de te," &c. before him. To read it thus will do him service, and he will shut up the volume a less arrogant, if not a wiser, man than when he opened it.

The "Introduction," with which the work commences, is intended to illustrate the text—that "man is a dupeable animal," and a sort of natural prey for quacks of all descriptions. The first really great quack in medicine was Paracelsus, and a quack of the first water he certainly was.

"He was professor of medicine at Basle, but became renowned by a nostrum called *azoth*, which he vaunted as the philosopher's stone—the medical panacea—the tincture of life. He styled himself the 'monarch of physicians,' and arrogantly explained that the hair on the back of his head knew more than all authors; that the clasps of his shoes were more learned than Galen or Avicenna; and that his beard possessed more experience than all the academy of Basle: 'Stultissimus pilus occipitis mei plus scit, quam omnes vestri doctores, et calceorum meorum annuli doctiores sunt quam vester Galenus et Avicenna, barba mea plus experta est quam vestræ omnes Academiæ.' Extravagant as all this may appear, it yet had the effect of dissipating a too excessive admiration of the ancients, at that time prevalent in the schools. His boldness was such, that at his first lecture, upon his appointment to the professorship in the University, he, before his pupils, publicly burnt the writings of Galen and Avicenna! His education, however, was very imperfect, and he was ignorant even of his own vernacular tongue. Thomas Erastus, one of his pupils, wrote a book to detect his impostures. He was, nevertheless, a man of great ability, and did much towards the advancement of chemical knowledge, particularly in its application to the purposes of medicine. Armed with opium, antimony and mercury, he effected many extraordinary cures." 4.

There are few quackeries or quacks that have not some truth in the midst of all their lies, though the kernel is frequently small enough. Still quackery does a little good, if it does, at the same time, a great deal of harm. It rouses attention, prevents apathy and a torpid acquiescence in what is established, on the part of the profession, and sometimes gives a hint which may be followed out with benefit. The per contra, however, are heavy, and carry down the balance fearfully. The great evil of quackery is the stimulus that it gives to the credulity of men—an evil of incalculable magnitude, and one that would outweigh, a thousand times, all the good that quackery ever did. Then look at the falsehoods it breeds. Born in it, nurtured by it, what a system of lying does it not

engender. It is impossible to assign limits to the damage which such profligate mendacity must inflict upon the public morals.

A Chapter on Alchymy naturally enough succeeds the Introduction. So soon as men had any natural science, the pursuit of wealth and the prolongation of life were likely enough subjects to occupy them. The transmutation of metals and the philosopher's stone were the foundation of chemistry. This occult art has been attributed to the Arabians, and Geber mentions the philosopher's stone. So little did Dr. Johnson appreciate the science of this philosopher, that he disrespectfully supposes that the word gibberish has been derived from the peculiar style of his writings. Mr. Pettigrew, however, renders it not improbable, if he does not actually prove, that the Egyptians have a good right to the invention of Alchymy.

"Alchymy," says he, "cannot be regarded as of Arabian origin, however much it may have been cultivated and extended in that country. It flourished at a very early period in Egypt, and the late discoveries in that 'land of marvels' have shown an extended acquaintance with various arts and sciences as exercised in the different manufactures, of which representations are to be found in the tombs and excavations of a very early date. Without some knowledge of chemistry the Egyptians could never have excelled, as they have done, in the making of glass, of linen, in dyeing, in the use of mordaunts, &c. Their manufacture of metals, particularly of gold—the whole process of which is represented in the tombs of Beni Hassan and at Thebes—into various ornaments; their gold wire, their gilding, &c., exhibit great ability, and could not have been effected without some knowledge of metallurgy. Their embalmings also display an acquaintance with chemistry. The Egyptian manuscripts hitherto discovered have not afforded any particular light into the extent of their knowledge; but several papyri have been found to contain certain formula; and one, a bilingual manuscript (being Enchorial and Greek) was examined by my late friend, Professor Reuvens, the conservator of the Museum of Antiquities at Leyden, and was found to treat of magical operations, and to contain upwards af one hundred chemical and alchymical formulæ.

"It has been usual to ascribe the introduction of alchymy to Pythagoras, to Solomon, or rather to Hermes, and it has not unfrequently been called the Hermetical science. Gibbon has shown that the Greeks were inattentive either to the use or the abuse of chemistry, and that the immense collection of Pliny contains no instance of, or reference to, the transmutation of metals. He states the persecution of Diocletian to be the first authentic event in the history of alchymy. After the conquest of Egypt by the Arabs it spread over the globe." 7.

That, in the infancy of chemistry, there should be alchymists is not wonderful. The compositions and decompositions of the metals, &c. are wonderful enough at the present day, when we fairly understand them. They who believed in this transmutation, cannot be looked on as extraordinary dupes. It was not an unnatural idea. Every body knows that men of all ranks and of great accomplishments *did* believe. Perhaps the most extraordinary public *act* of belief was that of Henry VI.

"Henry IV. had enacted a statute prohibiting the craft of multiplication. None were permitted to multiply gold or silver, under pain of felony. Henry VI. repealed this statute and published a patent *authoritate Parliamenti*, which has been given by Prynne in his 'Aurum Reginæ,' and in which the monarch tells his subjects that the happy hour was drawing nigh when, by the discovery of the philosopher's stone, he should be enabled to pay all the debts of the nation in real gold and silver." 9.

We are afraid His Majesty's lieges never saw the royal *tin*, much less the gold.

Elias Ashmole actually received, in *syllables*, from his adopted father, Backhouse, a wretched astrologer, who lived a beggar notwithstanding, "the true matter of the philosopher's stone. Of this he professes that he knew enough to hold his tongue, but not enough to speak." And yet, in the most approved nosological fashion, he laid down four varieties of the stone in question—to wit, the mineral stone—the vegetable stone—the magical stone—and the angelical stone. Lest any should be disposed to doubt, or smile, he solemnly tells us that "incredulity is given to the world as a punishment," a doctrine that has always found favour with those who had got a faith to establish. However, the properties of the stones in question ought not by any means to be unknown :—

"The *mineral stone* hath the power of transmuting any imperfect earthy matter into its utmost degree of perfection; that is, to convert the basest of metals into perfect gold and silver; flints into all manner of precious stones, as rubies, sapphires, emeralds, diamonds, &c.

"The *vegetable stone*, by which Abraham, Moses, and Solomon wrought many wonders. The nature of man, beasts, fowls, fishes, all kinds of trees, plants, flowers, &c. may by this stone be made to grow, flourish, and bear fruit,—increase in colour, smell, &c. when and where and at whatever season of the year its possessor may please.

"The *magical or perspective stone* makes a strict inquisition, discovers any person in any part of the world whatever, and enables you to understand the language of birds, beasts, &c.

"The *angelical stone* can neither be felt, seen, nor weighed, but it can be tasted. It will lodge in the fire to eternity without being prejudiced. It hath a divine power, celestial and invisible, and endows the possessor with divine gifts. It affords the apparition of angels, and gives a power of conversing with them by dreams and revelations, nor dare any evil spirit approach the place where it is." 10.

Some may, perhaps, ask—"why rake up the rubbish of such buried balderdash." Buried *it* may be, but imposture as errant, humbug as gross, courts its dupes and its abettors in the present day. With what face can that age laugh at Alchymy which tolerates the Mesmerists. The latter gentry seem to be of the Alchymist's way of thinking, and act as though they had got old Chaucer's rhyme by heart :—

> "Make privy to your dealing as few as you maie,
> For three may keepe council if twain be awaie."

The belief in the transmutation of metals has not yet died out in the minds of chemists. Dr. Christopher Girtanner, an eminent professor of Gottingen, has recently prophesied :—

"In the nineteenth century the transmutation of metals will be generally known and practised. Every chemist and every artist will make gold; kitchen utensils will be of silver, and even gold, which will contribute more than anything else to prolong life, poisoned at present by the oxyds of copper, lead, and iron, which we daily swallow with our food." 15.

In the language of John Gilpin—

> "May we be there to see."

After Alchymy, we are presented with a chapter on **Astrology.** It is

hard to say which was the greater folly of the two, though, perhaps, astrology will, without difficulty, carry off the palm. The latter is the pure offspring of ignorance and fear, the other has some connexion with science. It would be difficult to tell what good astrology has done the world, unless, as was the case with Newton, it may be looked upon as having led to the cultivation of astronomy. But alchymy has been the foundation of that great lever of human progress—Chemistry.

It is not very flattering to medicine, that astrology was considered indispensable to the accomplished physician, and to physicians of the old school, very probably it was. The wisdom of *our* ancestors was great in medical matters.

"Red flowers were given for disorders of the sanguiferous system, yellow ones for those of the biliary secretion, &c. We find that in smallpox red bed-coverings were employed, with the view of bringing the pustules to the surface of the body. The bed-furniture and hangings were very commonly of a red colour,—red substances were to be looked upon by the patient. Burnt purple, pomegranate seeds, mulberries, or other red ingredients were dissolved in their drink. In short, as Avicenna contended that red bodies moved the blood, everything of a red colour was employed in these cases. John of Gaddesden, physician to Edward II., directs his patients to be wrapped up in scarlet dresses: and he says that 'when the son of the renowned king of England (Edw. II.) lay sick of the smallpox, I took care that everything around the bed should be of a red colour; which succeeded so completely that the Prince was restored to perfect health, without a vestige of a pustule remaining.' Wraxall, in his 'Memoirs,' says that the Emperor Francis I., when infected with the smallpox, was rolled up in a scarlet cloth, by order of his physician, so late as 1765, when he died. Kæmpfer (History of Japan) says that 'when any of the emperor's children are attacked with the smallpox, not only the chamber and bed are covered with red hangings, but all persons who approach the sick prince must be clad in scarlet gowns.' Flannel died nine times in blue was held to be efficacious in the removal of glandular swellings.

"The rising and setting of the stars, the eclipses of the sun and moon, the appearance of comets or other fiery meteors, the aspects, conjunctions, and oppositions of the planets, have all been considered to be intimately influential in the production as in the relief of diseases. Fracastorius, a poet and physician, sought for the causes of diseases in the heavens. Certain positions of the celestial bodies he considered to be of malignant influence, by which contagious disorders were produced. A conjunction of many stars under the large fixed stars predicted a contagion, falling stars and comets denoted putrefaction. The Jesuit Kircher, after a strict examination of almanacs and astrological tables, contended that putrid diseases had always prevailed at those times when the planets Mars and Saturn were in conjunction. He therefore inferred that those two planets emitted very deadly exhalations, which infected the air and all terrestrial productions with a putrescent tendency,—when myriads of animalcules were instantly generated, and the plague, the smallpox, the measles, or some other putrid fevers, became inevitable.

Mr. Fraser* notices the superstitious belief of the natives of Khorasan in the powers of the celestial bodies, and says they attributed the ravages of the cholera with which they were visited to the influence of the star Canopus, (called by the Persians and Arabians Zoheil,) which became visible at this time above the horizon, a little before sunrise." 20.

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* Narrative of a Journey into Khorasan, p. 64.

We may laugh at John of Gaddesden, but his reasoning was just as good as some of our own. It was after all but the popular "post hoc ergo propter hoc" argument that he resorted to. Your experimenters of the present day do, often, nothing else. And we should like to know what can be more scientific than Kircher's way of doing business. Were he alive now, he would be one of the most active members of the Statistical Society. Nothing can be more a-la-mode than his reasoning. He looks over the old almanacs, (history, we know, is nothing else,) and finds when putrid diseases prevailed—he consults the astrological tables. and ascertains that just then Mars and Saturn were always in conjunction. What can be more satisfactory—what more statistical—what more conclusive? We are sure that the statistical people can neither pursue a more satisfactory method, nor often arrive at a more instructive result.

Nor is a belief in the influence of the planets altogether a tradition. In the "clime of the sun," not only the vulgar, but the faculty, too, believe in Lunar and Sol-lunar influence.

"Dr. Balfour, who for a long time resided at Calcutta, an accurate and intelligent observer of the diseases which occur in hot climates, is generally considered to have satisfactorily established the influence of the moon in cases of fever, and he was induced, during a practice of fourteen years in the East, to pay particular attention to its revolutions in the treatment of these diseases. He found the accession of fever to take place during the three days which either precede or follow the full moon; and he has endeavoured to show that, at the time of the equinoxes, an additional power is added to the lunar influence exercised on the human frame. These opinions have met with support and received confirmation from the practice and researches of Lind in Bengal, of Cleghorn in Minorca, of Fontana in Italy, of Jackson in Jamaica, of Gillespie at St. Lucia, of Bell in Persia, and of Annesley in Madras. Dr. Mosely carried his opinions with respect to the influence of the moon on mankind to a ridiculous extreme, and affirmed that almost all people of extreme age died at the new or at the full moon. Aristotle ascribes many of the derangements of females to the decrease of the moon. Galen says all animals born when the moon is falciform are weak and feeble, and short lived; whilst those born at the full are the contrary. Lord Bacon invariably fell into a syncope during a lunar eclipse." 21.

If the moon influences the tides, why may it not influence us? If the sun has such an effect, as it unquestionably has, on the health and the organization of animals and plants, why may not the moon have some? It would be very shabby to deny it any. However, not being *lunatics*, we shall waive the question, and refer it to Mr. Farre, who, we dare say, will take it up in his next Report. With the following, we shall dismiss the subject of astrology.

"In savage nations the physicians, if they may be so called, are all conjurors and wizards, persons supposed to be gifted either with divine or demoniacal natures. Incantations, sorcery, jugglery of all kinds, engrafted, probably, in many cases upon enthusiasm, together with ignorance, supply the place of science, to which they are utter strangers. Whatever is beyond their sagacity is assigned to invisible agency. Pliny calls magic the offspring of medicine, and says that, after having fortified itself with the help of astrology, it borrowed all its splendour and authority from religion." 24.

It is certainly paying no compliment to religion, and not a great one to physic, to find that when the latter is lowest it is in alliance with religion,

while in its present palmy state the world (we believe, however, unjustly,) accuse it bitterly of scepticism. It must be recollected that when physic was humbug, religion was superstition, and the reformation of the latter has left the science of the former to its future path and course. Whatever that may be, it must be owned, at all events, that in these days we are, with the exception of the Mesmerists, &c., no conjurors. But really what *were* Early Medicine and Surgery?

If Bacon is to be believed, it was no better than it should be.—"Witches and impostors," he says, "have always held a competition with physicians," implying, we presume, that they were a good deal alike. However that may be, Le Clerc contends that medicine came immediately *from* God, and Adam is allowed by the Fathers of Medicine to have been the first general practitioner. No surgical instruments have been discovered among the implements found in the tombs of Egypt, and so soon as the physician and surgeon were become separate individuals, the former took precedence by reason of the skill necessary for the detection of internal diseases, and we doubt also of the little skill exhibited in the treatment of external ones. How could it be otherwise, and what sort of surgeons must they have been who knew nothing of anatomy?

It is odd, perhaps, that circumcision should be the first surgical operation on record. It was a holy rite, and executed by the priests. The first book on anatomy was written by a sovereign, Athotis, the first king of Egypt, founder of Memphis. Many of our readers, we dare say, are acquainted with Herodotus' account of the state of Egyptian physic and physicians. "Every physician was for one disease—not more; so that every place was full of physicians; for some were doctors for the eyes, others for the head; some for the teeth, others for the belly; and some for occult disorders. There were also physicians for female disorders. The sons followed the profession of their fathers, so that their number must necessarily have been very great. Herodotus says παντα δε ιητρων επιπλεα. This arrangement and classification, however, could scarcely have taken place until the practice of medicine had ceased with the priesthood." Practically a high state of civilization—our present one at all events, leads to something of the same sort. We have our liver-doctors, stomach-doctors, water-doctors, &c., and while the public approve of the arrangement, there will be plenty in the profession to encourage the taste for it. In fact, if we all start with a good education, if we are all on a level with the science of the day, and there is no mystery in the matter, there is perhaps no great harm in one man's devoting himself much to one class of complaints, another man to another class.

The Egyptians, however, went rather farther than we do. They divided the human body into thirty-six parts, each of which they believed to be under the particular government of one of the decans or aerial demons, who presided over the triple divisions of the twelve signs; and we have the authority of Origen for saying, that when any part of the body was diseased, a cure was effected by invoking the demon to whose province it belonged." It naturally followed that the planets should come to exercise dominion on the several parts of our mortal frames, as may be learnt from that work of useful knowledge—the almanac of the immortal Francis Moore, physician. Southey has drawn up a sketch of this zodiacal system, that may possibly amuse, if not instruct.

"There Homo stands, naked but not ashamed, upon the two Pisces, one foot upon each; the fish being neither in the air nor water, nor upon earth, but self-suspended as it appears in the void. Aries has alighted with two feet on Homo's head, and has sent a shaft through the forehead into his brain. Taurus has quietly seated himself across his neck. The Gemini are riding astride a little below his right shoulder. The whole trunk is laid open, as if part of the old accursed punishment for high treason had been performed upon him. The Lion occupies the thorax as his proper domain, and the crab is in possession of the abdomen. Sagittarius, volant in the void, has just let fly an arrow, which is on the way to his right arm. Capricornus breathes out a visible influence that penetrates both knees; Aquarius inflicts similar punctures upon both legs. Virgo fishes as it were at his intestines; Libra at the part affected by schoolmasters in their anger; and Scorpio takes the wickedest aim of all." 31.

The history of medicine in connection with the church is not a little curious, though far from creditable to the clergy. Physic being of heavenly origin, the priests laid hold of it and monopolized it. We may naturally suppose what it was in their hands—a thing of omens, prayers, divination, and every species of imposture. To such an extent did this go, that it became a sacerdotal means of swindling the sick and dying to such a tune, that Councils and Popes were obliged, for very shame, to interdict the shepherd from shearing the flock so close, and to forbid the priesthood from visiting the sick otherwise than as ministers of religion. For some time the attempts to arrest the rapacity of the holy men was fruitless, and the result is instructive.

"When the priests ascertained that they could no longer confine the practice of medicine to themselves it was stigmatized and denounced. At the Council of Tours, held in 1163 by Pope Alexander III., it was maintained that the devil, to seduce the priesthood from the duties of the altar, involved them in mundane occupations, which, under the plea of humanity, exposed them to constant and perilous temptations. They were accordingly prohibited the study of medicine, and that of the law, and every ecclesiastic who should infringe the decree was threatened with excommunication. In 1215 Pope Innocent III. fulminated an anathema specially directed against surgery, by ordaining, that as the church abhorred all cruel or sanguinary practices, no priest should be permitted to follow surgery, or to perform any operations in which either instruments of steel or fire were employed; and that they should refuse their benediction to all those who professed and pursued it.

"Stringent as these measures were, they were found inadequate to effect the purpose intended, and it was only at length accomplished by a special bull procured from the Pope, which, by permitting physicians to marry, effectually divorced medicine from theology." 34.

A pretty piece of history. But, after all, the Romish Church has by no means given up its trade in physic. A snug business is done in shrines, relics, and saints. The latter respectable fraternity have taken a leaf out of the book of Egyptian medicine, and adopted most successfully the division of labour. The following edifying list will be useful to all true believers. It comprises the more prominent patrons of a few of our complaints.

"St. Agatha, against sore breasts.
St. Agnan and St. Tignan, against scald head.
St. Anthony, against inflammations.
St. Apollonia, against toothach.

St. Avertin, against lunacy.
St. Benedict, against the stone, and also for poisons.
St. Blaise, against the quinsy, bones sticking in the throat, &c.
St. Christopher and St. Mark, against sudden death.
St. Clara, against sore eyes.
St. Erasmus, against the colic.
St. Eutrope, against dropsy.
St. Genow and St. Maur, against the gout.
St. Germanus, against the diseases of children.
St. Giles and St. Hyacinth, against sterility.
St. Herbert, against hydrophobia.
St. Job and St. Fiage, against syphilis.
St. John, against epilepsy and poison.
St. Lawrence, against diseases of the back and shoulders.
St. Liberius, against the stone and fistula.
St. Maine, against the scab.
St. Margaret and St. Edine, against danger in parturition.
St. Martin, against the itch.
St. Marus, against palsy and convulsions.
St. Otilia and St. Juliana, against sore eyes and the headach.
St. Pernel, against the ague.
St. Petronillai, St. Apollonia, and St. Lucy, against the toothach.
————, and St. Genevieve, against fevers.
St. Phaire, against hæmorrhoids.
St. Quintan, against coughs.
St. Rochus and St. Sebastian, against the plague.
St. Romanus, against demoniacal possession.
St. Ruffin, against madness.
St. Sigismund, against fevers and agues.
St. Valentin, against epilepsy.
St. Venise, against chlorosis.
St. Vitus, against madness and poisons.
St. Wallia and St. Wallery, against the stone.
St. Wolfgang, against lameness." 38.

It is well to know to whom to apply in case of our doctor being out of the way. Certainly some of the Saints are condescending. No less than four look after toothache—three might be supposed enough to render lithotrity unnecessary. St. Blaise might have been invoked with advantage, if not success, by Mr. Brunel, while St. Maine for the scab, St. Martin for the itch, and St. Job and St. Fiage for the p—x, are, to say the least, more civil than particular.

There has always been a sovereign virtue in wells and fountains. No doubt, if people confined themselves to drinking what flows from them, there would be less intemperance and fewer headaches than are actually going. But the sacred fount has its tutelar divinity, and the Naiad still lives in the less euphonious persons of St. Quan, St. Brogawn, et hoc genus omne of saints. The well of the two last-named gentlemen is a sample of the whole. Mr. and Mrs. Hall inform us that:—

"The times for visiting it are the last three Sundays in June, when the people imagine the saints exert their sacred influence more particularly for the benefit of those who apply for their assistance. It is confidently said, and firmly believed, that at this period the two saints appear in the well in the shape of two small fishes of the trout kind; and if they do not so appear, that no cures will take

place. The penitents attending on these occasions ascend the hill barefoot, kneel by the stream and repeat a number of paters and aves, then enter it, go through the stream three times, at a slow pace, repeating their prayers. They then go on the gravel-walk, and traverse it round three times on their bare knees, often till the blood starts in the operation, repeat their prayers, then traverse three times round a tree on their bare knees, but upon the grass. Having performed these exercises, they cut off locks of their hair and tie them on the branches of the tree as specifics against headach. The tree is a great object of veneration, and presents a curious spectacle, being covered all over with human hair." 41.

We are not sure that there is not something in this. If bilious folks would practise the gymnastics and the water-cure enjoined by Saint Quan & Co. regularly, the probabilities are that their attacks would be few.

A TALISMAN is defined by Mr. Pettigrew to be a substance composed of certain cabalistical characters engraved on stone, metal, or other material, or else written on slips of paper. It differs from an amulet in this respect, that it may be deposited in any place, or carried about the person, without losing its efficacy, whilst the latter requires to be constantly worn about the individual.

But Fosbrooke has, with his usual and his useful accuracy, shown us that there are really five sorts of Talismans—a thing worthy to be known, as we can choose to our tastes or necessities. There are, then, 1. The *Astronomical*, with celestial signs and intelligible characters. 2. The *Magical*, with extraordinary figures, superstitious words, and names of unknown angels. 3. The *Mixed*, of celestial signs and barbarous words, but not superstitious or with names of angels. 4. The *Sigilla Planetarum*, composed of Hebrew numeral letters, used by astrologers and fortune-tellers. 5. *Hebrew Names and Characters*. These were formed according to the cabalistic art, and the whole form a complete and valuable collection. A writer in the Gentleman's Magazine has been good enough to translate for the world in general and his readers in particular, a Hebrew Talisman, we presume of the fifth sort. Nothing can be more calculated to inspire both confidence and veneration than the charm. It reads :—"It overflowed—he did cast darts—Shadai is all-sufficient—his hand is strong, and is the preserver of my life in all its variations." It appears that there are talismanic characters on all the old houses still standing in Edinburgh. Can the Kirk hear this unmoved ?

AN AMULET means, in Arabic, "that which is suspended," and the Greeks and Romans set us the example of using them pretty extensively. In the legal "Duel," the champions were obliged to take an oath, "that they had ne charm ne herbe of virtue," a fair and necessary precaution, consistent with the whole of that sensible specimen of the wisdom of our ancestors.

"In its composition the amulet is of the most varied kinds; objects selected either from the animal, the vegetable, or the mineral kingdoms; pieces of old rags or garments, scraps of writing in legible or illegible characters, in fact, of anything to which any superstitious property has been considered to belong. Sir Walter Scott had in his possession one of these pretended charms taken from an old woman who was said to charm and injure her neighbours' cattle. It consisted of feathers, parings of nails, hair, and such like trash, wrapped in a lump of clay." 48.

It is pleasing to find that amulets are thus within the reach of all classes, and our fair friends may have as good a one out of their old flannel petticoats, as royalty itself. There was a great trade carried on in African amulets, called *grigris*, which amongst other desirable properties, had the anti-Malthusian one of procuring the fortunate possessor many wives, and giving to them easy deliveries. No wonder that the trade in *grigris* has fallen off. Heaven forbid it should ever revive, at all events, in this country.

Sentences, substances such as camphor, precious stones, have all been used as amulets. "The necklaces so commonly found on the Egyptian mummies are usually composed of objects having a funereal or mythological character or import, and were doubtless used as amulets to preserve the integrity of the body—a circumstance peculiarly essential with the Egyptians, being in accordance with their system of theology." The chrysolite is an amulet worth having. *Inducit sapientiam fugat stultitiam.* Unfortunately, as everybody knows, chrysolites are rare. We cannot sufficiently praise the sound discretion of the Mischna, which permits the Jews to wear amulets, provided they have been found efficacious in at least three cases, by an approved person.

Odd numbers are notoriously serious matters. "Some philosophers are of opinion that all things are composed of number, prefer the odd before the other, and attribute to it a great efficacy and perfection, especially in matters of physic: wherefore it is that many doctors prescribe always an odd pill, an odd draught, or drop, to be taken by their patients. For the perfection thereof they allege these following numbers: as 7 Planets, 7 Wonders of the World, 9 Muses, 3 Graces, God is 3 in 1," &c. Very conclusive reasons. It is evident that the belief is rather general in the profession, many doctors, and of name too, writing *very odd* prescriptions, and doing equally odd things. No doubt Dr. Elliotson has a *numeral* amulet.

While on this subject let us not forget to report, in due course, the medical virtues inherent in an odd sort of person—the seventh son of a seventh son. He is born a physician, knowing diseases intuitively, and often curing by the touch only. And why should he not, when Priessnitz, Morrison, and the rest do as much, or more, without any pretension to being born in the least unlike their neighbours. We are sorry however to be obliged to state, that M. Thiers' reasons point rather unfavourably than otherwise for seventh sons:—"Plusieurs croyent qu'en France, les septièmes garçons, nez de legitimes mariages, sans que la suitte des sept ait, esté interrompue par la naissance d'aucune fille, peuvent aussi guerir des fièvres tierces, des fièvres quartes, et mesme des ecrouelles, après avoire jeûné trois ou neuf jours avant que de toucher les malades. Mais ils font trop de fond sur le nombre septenaire, en attribuant au septième garçon, preferablement à tous autres, une puissance qu'il y a autant de raison d'attribuer au sixième ou au huitième, sur le nombre de trois, et sur celuy de neuf, pour ne pas s'engager dans la superstition. Joint que de trois que je connois de ces septièmes garçons il y en a deux qui ne guerissent de rien, et que le troisième m'a avoué de bonne foy, qu'il avoit en autrefois la reputation de guerir de quantité des maux, quoique en effet il n'ait jamais guery d'aucun. C'est pourquoy Monsieur du Laurent a grande

raison de rejetter ce pretendu pouvoir, et de la mettre au rang des fables, en ce qui concerne la guerison des ecrouelles."

It is hard enough that, in France, eldest sons should not have the advantage of their primogeniture, without cutting off from seventh sons their perquisites too. M. Thiers is very much to be blamed.

The two magical words ABRAXAS and ABRACADABRA have had a world of commentaries written on them, and played a great part in their day. The latter fearful sign was recommended by Serenus Samonicus, a physician in Caracalla's reign, as an amulet to cure ague, and other diseases. The letters comprising Abracadabra are to be so written, that reading from the apex on the right and up the left side, the same word will be given as at the top:

ABRACADABRA
BRACADABR
RACADAB
ACADA
CAD
A

or thus:

ABRACADABRA
ABRACADABR
ABRACADAB
ABRACADA
ABRACAD
ABRACA
ABRAC
ABRA
ABR
AB
A

Julius Africanus says that pronouncing the word is as good as writing it. Julius Africanus is no doubt right.

CHARMS are of much the same kidney as Amulets, only the latter were to be suspended when employed, which the former were not necessarily to be. Charms being derived from carmen, were frequently verses in which the spells were written. Cato the Censor found the reduction of a dislocation readily effected by singing IN ALIO S. F. MOTAS VAETA, DARIES DARDARIES ASTATARIES DISSUNAPITUR. That capital surgeon, however, had other strings to his bow, for if the dislocation did not yield to the above chaunt, he had two still better:—HUAT HANAT ISTA PISTA SISTA, DOMIABO DAMNAUSTRA, et luxato. Vel hoc modo, HUAT HAUT ISTA SIS TAR SIS ARDAUNABON DAMNAUSTRA." No dislocation, we apprehend, *could* resist this.

That scraps of verse, pieces of old rag, coral, beads, and pins and needles should keep people well and render them invulnerable, cannot surprise any body. As we are fond of historical evidence, we may cite Marco Polo, in attestation of the fact. He writes "that, in an attempt by Kublai Khan to make a conquest of the island of Zipangu, a jealousy arose between the two commanders of the expedition, which led to an order for putting the whole of the inhabitants of the garrison to the sword: and

that, in obedience thereto, the heads of all were cut off, excepting of eight persons, who by the efficacy of a diabolical charm, consisting of a jewel or amulet introduced into the right arm, between the skin and the flesh, were rendered secure from the effects of iron, either to kill or wound. Upon this discovery being made, they were beaten with a heavy wooden club, and presently died." A good instance this of the way in which the devil *sells* his friends. For if they had had no charm at all they would *simply* have had their heads cut off—but being defended by Satan, all they got was a good deal of hacking and hewing to no purpose (the heads being fixtures), and a beating to death after all.

It is worth observing, as Mr. Pettigrew does, that the principal complaints for which charms were efficacious, were those which are much under the influence of the nervous system, the imagination, and so forth. Epilepsy, convulsions, and fits have been the staple for which charms were *in request*. It is curious with what instinct, hypocrisy and enthusiasm have always acted. Down to this very day, epilepsy is the quack's favourite. It is on epilepsy that Mesmerism lays its hands, and that and hysteria have been its great guns all along. It is not because these complaints are so apt to go suddenly of themselves, or from some strong impression of the mind, that they have been selected by the quacks; no, it is simply because they are frightful and intractable maladies.

It *is* not wonderful that charms should be resorted to against the plague, that terrible disorder, sudden in its onset, frightful in its course, defying human skill, and looking like a direct infliction of divine vengeance. The notions of the Moors on the subject may be interesting now, when that people have come into collision with Europe, and are likely enough to come under the sway of France at no very distant period.

"Mr. Jackson, consul at Mogodor, in his 'Travels in Africa,' gives us an account of the plague which depopulated West Barbary in 1799–1800, and says that the Mahomedans, who are predestinarians and believe in the existence of spirits, devils, &c., regard the plague as a good or blessing sent from God to clear the world of a superfluous population; that no medicine or precaution can cure or prevent it; that every one who is to be a victim to it is (*mktube*) recorded in the book of fate; that there are certain genii who preside over the fate of men, and who sometimes discover themselves in various forms, having often legs similar to those of fowls; that these genii are armed with arrows; that when a person is attacked by the plague, which is called in Arabic *l'amer*, or the destiny or decree, he is shot by one of these genii, and the sensation of the invisible wound is similar to that from a musket-ball; hence the universal application of *M'drab* to a person afflicted with the plague, i. e. he is shot, and if he die *ufah ameruh*, his destiny is completed or terminated—in the world. Mr. Jackson says he scarcely ever yet saw the Mooselmin who did not affirm that he had, at some time of his life, seen these genii, and they often, they say, appear in rivers.

"Fear, he observes, had an extraordinary effect in disposing the body to receive the infection; and those who were subject thereto invariably caught the malady, which was for the most part fatal." 66.

It is not a little in favour of the value of human testimony, that these Mooselmin affirm that they have *seen* these genii. It would be difficult to find a lie, however palpable, that witnesses could not be got, or have not been got, to swear to. As for credulity, the experience of our own day shows that *it* is not confined to the uneducated. It is rife in all ranks,

and it ever was so. The powder of toad was, like many other things, employed as a preservative against the plague. "Pope Adrian is reported never to have been without it. The ingredients forming his amulet were dried toad, arsenic, tormentil, pearl, coral, hyacinth, smarag, and tragacanth. Among the Harleian MSS. is a letter from Lord Chancellor Hatton to Sir Thomas Smith, written at the time of an alarming epidemic. He writes thus: 'I am likewise bold to recommend my most humble duty to our dear mistress (Queen Elizabeth) by this LETTER and RING, which hath the virtue to expell infectious airs, and is *to be worn betwixt the sweet duggs*, the chaste nest of pure constancy. I trust, sir, when the virtue is known, it shall not be refused for the value.'" Whether the Virgin Queen did actually wear the said ring "betwixt the sweet duggs," deponent saith not, and history is silent.

We have latterly cultivated morbid anatomy with some success, but it is questionable whether we have not gone back in therapeutics. The worst of it is, that the modern race of medical men are so indifferently read in the olden literature of their profession. Many valuable facts are thus buried in unopened volumes, to the great loss of the public, and the disgrace of themselves. We shall resuscitate a hint or two for the benefit of the present age.

In *ague*, we are many of us insufficiently aware of the value of the chips of a gallows, put into a bag, and worn round the neck. Yet a little consideration might point out the probability of that application being a valuable one; for the gallows itself must have effectually cured the ague of the gentleman who swung on it.

That spiders cure ague is a fact too incontestably established to admit, we presume, of any doubt. Elias Ashmole's evidence would be, alone, conclusive. "I took early in the morning a good dose of elixir, and hung three spiders about my neck, and they drove my ague away. Deo Gratias!" More pious, however, than logically satisfactory; for the sceptical might remark, that possibly the elixir drove away the ague, or possibly it went away of itself, nay, perhaps, it did not go at all. But there are great authorities in favour of the spiders: Diascorides, Matthiolus, Aldrovandus, and a host of old women.

We need not go into the instructive case of the Hon. Robert Boyle, who cured his ague by applying to his *wrists* a mixture of bay salt, hops, and blue currants; nor will we, with Mr. Boyle, explain how the remedy *does* cure. But we cannot refrain, for the benefit of our friends in the Fens, from mentioning another remedy or two, which cannot fail to give satisfaction.

"In Skippon's account of a 'Journey through the Low Countries,' &c., he makes mention of the lectures of Ferrarius and his narrative of the cure of the ague of a Spanish lieutenant, by writing the words FEBRA FUGE, and cutting off a letter from the paper every day, and he observed the distemper to abate accordingly; when he cut the letter F last of all the ague left him. In the same year, he says, fifty more were reported to be cured in the same manner.

"Another charm for ague was directed to be said up the chimney, by the eldest female of the family, on St. Agnus Eve. It ran thus:—

"Tremble and go!
First day shiver and burn:

Tremble and quake!
Second day shiver and learn:
Tremble and die!
Third day never return."

Some cunning people go at dead of night five different times to the nearest cross-road, and there bury a new-laid egg. Of course, the ague's in it. But they take good care not to speak to anybody, for that would break the charm, if not the egg. Other persons, of equal sense, break a salted cake of bran, and give it to a dog, when the fit is coming on. The dog naturally gets, and the patient loses it. Serenus Samonicus has put us in possession of as agreeable, and, we dare say, as effectual a remedy as any. It is placing under the head of one with *quartan ague* the fourth book of Homer's Iliad—we imagine in *quarto*.

In *Hectic Fever and Consumption*, the canny Scotchmen "pare the nails of the fingers and toes of the patient, put them into a rag cut from his clothes, then wave their hand with the rag thrice round his head, crying, *Deas soil;* after which they bury the rag in some unknown place."

We would strongly advise any one who has a child ill with the hooping-cough, to look out for some one on a *pye-ball* horse, and ask him for a remedy for the *hooping-cough*. Whatever he names is an infallible specific.

That scrofula is the "king's evil" every body knows; that it was cured by the king's touch, most, we fancy, will admit. But not only would the king's touch do it—that of a virgin (not easily got,) and of a murderer (what a compliment to majesty!) would do as well.

The treatment of rickets is ingenious, and illustrates the popular phrase of being "in a cleft stick." We were not, however, aware of the advantages derivable from that position.

"Grose says that if a tree of any kind is split, and weak, rickety, or ruptured children drawn through it and the tree afterwards bound up, as the tree heals and grows together, so will the children acquire strength. Sir John Cullum saw the operation performed, and states that the ash tree was selected as the most preferable for the purpose. It was split longitudinally about five feet: the *fissure* was kept open by the gardener, whilst the friend of the child, having first stripped him naked, passed him thrice through it, almost head foremost. This accomplished, the tree was bound up with packthread, and as the bark healed, so it was said the child would recover. One of the cases was of rickets, the other a rupture. The ash tree has been very generally preferred for superstitious practices. White, in his well-known 'Natural History of Selborne,' has noticed this particularly. Not only trees, but stones, were similarly used. To creep through a perforated stone was a Druidical ceremony; and in the parish of Marden there is, or was, a stone with a hole in it fourteen inches in diameter, through which children were drawn for the rickets." 75.

We all know that Erysipelas is *St. Anthony's Fire*, but our particular obligations to the Saint are not, perhaps, so familiar as they ought to be. It appears, then, that erysipelas was once raging violently throughout Europe, and that, thanks to St. Anthony, it miraculously ceased. It is a pity that, whilst he was about it, he did not put a stop to it for good.

If our readers have any fair friends with warts, we are sure they will thank them for the following valuable recipe.

"Grose gives, for the removal of these excrescences, direction to 'steal a piece

of beef from a butcher's shop, and rub your wart with it, then throw it down the necessary-house, or bury it, and as the beef rots, your warts will decay.' Sir Thomas Browne says, 'for warts we rub our hands before the moon, and commit any maculated part to the touch of the dead.'

"Sir Kenelm Digby says, 'One would think it were a folly that one should offer to wash his hands in a well-polished silver basin, wherein there is not a drop of water, yet this may be done by the reflection of the moonbeams only, which will afford it a competent humidity to do it; but they who have tried it, have found their hands, after they are wiped, to be much moister than usually; but this is an infallible way to take away warts from the hands, if it be often used.'" 80.

"Oh! Sir Kenelm Digby," unbelievers will protest, "what a liar art thou! Ferdinand Mendez Pinto was but a type of thee!" and yet we dare to say that Sir Kenelm did wash his hands with moonbeams, the washing being a matter of moonshine. And it is highly probable that the hands of some of our acquaintance, which to the vulgar eye seem merely dirty, undergo a similar ablution.

The history of the remedies for hæmorrhage might be read with advantage by most people now. Look at the styptics advertised—look at the belief entertained by eminent men, in the virtues of Ruspini's, and think, if you will, the present age altogether superior to the past. True, they relished the marvellous. "Boetius de Boot says he cured a maid at Prague, who had suffered from a violent hæmorrhagy for six years, for which she had often been bled, and various remedies resorted to without effect, by merely hanging a jasper round her neck, which effected her cure. Upon leaving off the jasper the hæmorrhage would return, and this continued to be the case for some time; at length, however, she was perfectly cured.

"Van Helmont affirms that he had a metal, of which, if a ring were made and worn, not only the pain attendant upon hæmorrhoids would cease, but that in twenty-four hours, whether internal or external, they would vanish altogether."

Very precise evidence, and given on the personal testimony of two respectable men. As for charms, it would be useless to quote them. Almost any saint in the calendar would answer the purpose. We cannot, however, resist the opportunity of once more introducing the celebrated Robert Boyle, the chemist and natural philosopher. He says:—"Having been one summer frequently subject to bleed at the nose, and reduced to employ several remedies to check that distemper, that which I found the most effectual to stanch the blood was some moss of a dead man's skull, (sent for a present out of Ireland, where it is far less rare than in most other countries,) though it did but touch my skin, till the herb was a little warmed by it."

There are those who, ever deferring to authority, would silence all doubts by the reply that, "it was believed by this or that eminent man." But such is the weakness, such the inconsistency of the human intellect, that however it may shine in one direction, that is no guarantee against lamentable blindness in another. The case of Boyle is one of the many in point.

It might be expected that there would be many superstitions connected with an event so interesting to the human race, as child-birth. There

are more indeed than we have a mind to chronicle. One or two however, are amusing.

"The men in some countries, when the women are delivered, lie in, keep their bed, and are attended as if really sick. At Surinam, Fermin says, the man keeps to his *hamac* for six weeks. In Persia, when a woman is about to lie in, the schoolmasters are requested to give liberty to their boys, and birds confined in cages are permitted to escape. Charlevoix says that when the women of Maroc perceive labour pains, the neighbours select five school-boys, and tie four eggs in the four corners of a napkin, with which the boys run singing through the streets."

We every now and then see advertisements in the papers, to the effect that a *child's caul* is to be sold. Perhaps some of our readers do not exactly know what a child's caul is.

"In this and some other countries when a child is born with the caul or amnion over its face, it is preserved with great care and regarded as ominous of good fortune to the infant, and also as valuable to any one who may become possessed of it, enabling them to avoid many serious dangers. 'Il est né coiffé,' is a French proverb applied to lucky people. In Scotland, according to Ruddiman, it is called a *haly* or *sely how*, a holy or fortunate cap or hood. A midwife in Scotland is called a howdy or howdy wife. The virtues of the caul are described as various; it renders advocates eloquent, saves the possessor from having his house destroyed by fire, or being himself drowned. It is therefore much in request with sea-faring people." 66.

No doubt they must find their account in it, or they would not pay so much as they do for it.

The Influence of the Mind upon the Body is a teeming subject, and might occupy volumes as easily as chapters. It is a phenomenon which we all experience in ourselves, observe continually in others, reflect upon not much, and act upon less than we might. The routine of practice comes to make us regard blue-pill, or senna, bark or iodine as our efficient weapons against disease, and partly from our so regarding them, partly from the mind and its armory of influences not being so readily at our disposal, we are too apt to neglect the latter, and to resign them in all their powerful applications to the quacks and impostors who use them with unprincipled, and often with successful recklessness.

It would not be amiss, as Dr. Abercrombie has suggested, if the philosophy of the mind were made a branch of medical education far more than it is. If any one ought to understand it, a physician should, for it is an integral part of physiology, and its observation is as integral a part of his professional life. Yet how few in the profession are really acquainted with it!

If we cite some instances of the effects of the passions and sentiments upon the body, it is not because medical men are ignorant of their existence, but because they are in themselves of interest as specimens.

That *Fear* has caused death is very well known, and *Joy* has had its victims. "Sophocles, at an advanced age, and in the full possession of his intellectual power, composed a tragedy, which was crowned with such success that he died through joy. Chilon of Lacedemon died from joy whilst embracing his son, who had borne away the prize at the Olympic

Games. Juventius Thalna, to whom a triumph was decreed for subjugating Corsica, fell down dead at the foot of the altar at which he was offering up his thanksgiving. Fouquet, upon receiving the intelligence of Louis XIV. having restored him to liberty, fell down dead."

Rather a droll instance of the effects of apprehension was submitted to the Royal Academy of Sciences at Paris, in 1823.

"M. Buisson had attended a woman in hydrophobia; he bled her; his hands were smeared with the blood, and he wiped them with a cloth which had been applied to remove the saliva from the mouth of the patient. M. Buisson had an ulceration upon one of his fingers at the time, which circumstance no doubt dwelt upon his mind. On the ninth day after his attendance he was suddenly seized with a pain in his throat and eyes, the saliva was continually discharging itself from his mouth, the impression of a current of air, the appearance of a shining substance occasioned him painful sensations, his body seemed to him so light that he felt as though he could leap to a prodigious height, and he had a desire to bite—not men, but animals and inanimate bodies. He now began to drink with difficulty, and the sight of water was exceedingly distressing to him. He traced the pain of his throat, which recurred every five minutes, as extending from his finger up the arm to the shoulder and neck. He conceived himself labouring under hydrophobia; and horribly impressed by its fatality, he resolved to terminate his existence by stifling himself in a vapour-bath. He caused the temperature of the bath to be raised to 42°, (107° 36' Fahr.) when he was equally surprised and delighted to find himself completely well. He left the bathing-room, dined heartily, drank more than usual, and remained perfectly free from all complaint." 102.

Unquestionably M. Buisson, labouring under hydrophobia, must have been endowed with more than Roman valour, when he resolved to die in *a vapour-bath*. This was devoting himself in Curtian fashion to the infernal gods. Happily the whole ended as it did, in smoke, or what is nearly the same thing, steam. The denouement, a dinner, and a bottle of wine, is agreeable.

The phenomena of Catalepsy and Hysteria are amongst the most curious, and, practically to us as medical men, the most important of those which evince the mutual action of the mind and body. On the one hand, we have the *will* in operation, and a resolute and clever cheat shows us how far the usual manifestations of bodily suffering can be endured without seeming consciousness. On the other, the sentiments, passions, imagination predominate, and the hysterical girl or the nervous enthusiast, present the same phenomena of extravagant emotion or endurance. Impostors and visionaries of this description have gulled the world in every past age, and probably will gull it in every future one. The mass of men think little, reason less on facts beyond the range of their common experience. They see what is to them unusual, what appears miraculous, and they believe it what it seems. With the public credulity we cannot quarrel. To expect philosophy from those untrained to philosophical investigations would be unreasonable and absurd. But what must move us to laughter or to spleen, as our humour is wont to look on the infirmity of our nature, is when men of education and intelligence are as grossly humbugged as the meanest of the mob. This it is which makes us despair of the destiny of our race, and doubt if the era will ever arrive when it will cease to be led by the nose.

But to return to our author. He alludes to those convulsive actions produced by imitation which are among the most singular of the sort.

"Mr. Cornish, of Falmouth, gave a curious account of several instances in which he observed the effects of this mental excitement. It took its rise in a Wesleyan chapel in Redruth, and extended to others of the same denomination in Camborne, Helston, Truro, Penryn, and Falmouth. During the time of divine service, a man called out loudly and unexpectedly, 'What shall I do to be saved?' and expressed a most alarming apprehension as to the state of his soul. The example thus set was speedily followed, and the individual affected seemed to suffer great bodily pain. This circumstance becoming known, hundreds flocked to the chapel from curiosity, and many became similarly affected. The chapel was kept open for several nights and days, and the manifestations not being checked, but on the contrary, rather promoted by the preachers, who availed themselves of such an opportunity to convert sinners, the emotion extended itself rapidly. The attacks experienced are described by Mr. Cornish as of a nature, in the first instance, resembling attacks of chorea, which afterwards would assume either the character of hysterical or epileptical attacks, and continue, in some instances, for not less than seventy or eighty hours. Children from six years of age to old men of eighty were thus affected, but the cases were mostly of girls and young women. They were chiefly persons of the lowest class and in deplorable ignorance. Mr. Cornish estimates the number of persons affected as not being fewer than four thousand. He was not acquainted with a single case in which it proved fatal." 107.

We all recollect, for it was but yesterday it happened, the exhibition of the gift of tongues among the Irvingites. A startling piece of fanatical enthusiasm in the heart of London, in the nineteenth century. And has not Dr. Elliotson his petites matinées, his charming little soirées of Mesmerism still? If the Okeys have disappeared, the youth Alexis is just come—the somnambulists have been changed, but somnambulism lives—and a pass or two enables the accomplished artiste to read with his rump, and divine and prophesy. All this comes off in an elegant mansion in Conduit-street, in drawing-rooms adorned by modern taste and rich with the treasures of ancient art—the audience, the haughty and enlightened aristocracy of free and liberal England—the host and the patron, a hospital physician, a lecturer on physic, a physiological writer, a man, who, from every circumstance around him, should have a good right to be, and to be esteemed, philosophical.

"'T is true, 't is pity—pity 't is, 't is true."

After all, we of the profession must not bear too hard on people's imaginations. It does us often a good turn, if, sometimes, it serves us a bad one. How many of the patients of physicians (they have more of this class than the surgeons) are dyspeptic and hypochondriacal from the influence of depressing circumstaaces, rather than from bodily disorder! How many, in fact, fancy themselves ill, without being so! And what a magical effect confidence *to* them and *in* them has! Tell such with a magisterial air "to take up their bed and walk," and they do so. A joke, a bold dictum, a cynical remark, or a witty one, anything which shows a contempt of the complaint on the doctor's part, and a ready assurance that he can do what he likes with it, lays hold of the fancy of the patient, almost always benefits, and sometimes straightway cures him. This is

one of the advantages of celebrity. The doctor, in vogue, effects with a nod, what the poor devil who is not in vogue cannot accomplish at all.

What malleable materials for those who quack, whether in the Faculty or out of it, the bulk of mankind are made of, may be guessed from a fact or two, which we quote at random. We scarcely take a step in practice without stumbling on some of the same description.

"As soon as the powers of nitrous oxide were discovered, Dr. Beddoes at once concluded that it must necessarily be a specific for paralysis: a patient was selected for the trial, and the management of it was entrusted to Sir Humphry Davy. Previous to the administration of the gas, he inserted a small pocket thermometer under the tongue of the patient, as he was accustomed to do upon such occasions, to ascertain the degree of animal temperature, with a view to future comparison. The paralytic man, wholly ignorant of the nature of the process to which he was to submit, but deeply impressed, from the representation of Dr. Beddoes, with the certainty of its success, no sooner felt the thermometer under his tongue than he concluded the *talisman* was in full operation, and in a burst of enthusiasm declared that he already experienced the effect of its benign influence throughout his whole body; the opportunity was too tempting to be lost; Davy cast an intelligent glance at Coleridge, and desired his patient to renew his visit on the following day, when the same ceremony was performed, and repeated every succeeding day for a fortnight, the patient gradually improving during that period, when he was dismissed as cured, no other application having been used." 112.

Professor Woodhouse made some experiments in connection with this same nitrous oxide more satisfactory still, because upon a larger scale, and one, therefore, less open to fallacy.

"At the time that nitrous oxide excited almost universal attention, several persons were exceedingly anxious to breathe the gas; and the professor administered to them ten gallons of atmospherical air, in doses of from four to six quarts. Impressed with the idea that they were inhaling the nitrous oxide, quickness of the pulse, dizziness, vertigo, tinnitus aurium, difficulty of breathing, anxiety about the breast, a sensation similar to that of swinging, faintness, weakness of the knees, and nausea which lasted from six to eight hours, were produced." 112.

The religious chapter in the human mind is as mysterious as sacred. The purest of religions consecrates faith, and urges its necessity. The veriest of impostures claims the same, and it is on faith that superstitions have been built, idolatries erected, and miracles performed. The existence of the latter, at all events, their narration, furnish little to be depended on, as intrinsic evidence of truth or falsehood. The cures of Hoenlohe, in our own day, are numerous, well attested, and staggering to those who are not possessed of philosophic minds and medical experience. The cases were of a nervous character; palsy, lameness, defect of sight, of hearing, and so forth. "Dr. Pfeuffer, the directing physician of the Universal Hospital of Bamberg, in his Psychological and Medical Researches respecting these cases, asserts that they were all chronic disorders —not one of an acute character. The cures were undertaken without ostentation or mystery, nor was there any particular manipulation exercised. The zeal and energy and self-confidence of the prince increased with the various cases that pressed upon him, and the crowd of applicants

participated with him in the feeling and excitement." The facts are unquestionable, the explanation not difficult, but the *precise* rationale only to be comprehended when we comprehend, too, the *nature* of the nervous force.

"In the Journal of George Fox, a case of lameness suddenly relieved by an unexpected address under a state of religious ecstasy, is thus recorded: 'After some time I went to a meeting at Arn-side, where Richard Myer was. Now he had been long lame of one of his arms; and I was moved of the Lord to say unto him, amongst all the people, Prophet Myer, stand up upon thy legs, (for he was sitting down,) and he stood up, and stretched out his arm, that had been lame a long time, and said, 'Be it known unto you, all people, that this day I am healed.' But his parents could hardly believe it; but after the meeting was done, had him aside, and took off his doublet: and then they saw it was true. He came soon after to Swarth-more meeting, and there declared how that the Lord had healed him. Yet after this the Lord commanded him to go to York with a message from him; and he disobeyed the Lord; and the Lord struck him again, so that he died about three quarters of a year after.'" 116.

Can we wonder that such cases should influence men, unused to reasoning, excited by enthusiasm, taught that faith is the one great merit, and struck, in their ignorance, by the similarity of the miracle to those which they have revered in Holy Writ. Can *they* nicely balance the weight of evidence; can *they* discriminate the spurious from the true; can *they* distinguish the products of fanaticism from those of inspiration, the first fruits of the Gospel from its remote and incidental grafts; can *they*, enthusiasts, sit in judgment on enthusiasm? When they can, we may expect sectarianism to cease.

The Royal Gift of Healing, religious in its origin, political in its progress, and a farce in its conclusion, demands and receives the most loyal consideration from our author. The antagonism of England and France has appeared in this, as in all things else. Laurentius, physician to Henri Quatre, denied, as in duty bound, that the power resided in the Kings of Britain. The Rev. Dr. Tooker, chaplain to Elizabeth, proved most satisfactorily that it did not belong to the Kings of France. Probably in *this*, as in many disputes, both parties were right. But this regal prerogative degenerated sadly, for it fell, about the middle of the seventeenth century, into the plebeian hands of a Mr. Valentine Greatrakes; so, at least, Mr. Pettigrew spells this gentleman's name, but we apprehend that, from the miracles he did, his unquestionable cures of King's evil, agues, epilepsy, palsy, and convulsions, *Greatshakes* was his real designation. And yet the thing itself was no great shakes, after all, for he made it a present, perhaps in part payment of his wages, to Mr. *John Leverett*, his gardener, who belonging, no doubt, to the Hare family, and being naturally delicate, protested that "after touching thirty or forty a day, he felt so much goodness go out of him, he was as fatigued as if he had been digging eight roods of ground." A memorable fact, and one that goes a very good way towards confirming the reality of the operations of the Mesmerists, these latter apostles of the touch-and-go system, professing that they feel just the same thing.

We could not conscientiously close this article, intended, in our humble way, to magnify the marvellous, and to discourage that cold scepticism, so

marring to the poetry of this rail-road age, without some allusion to the sympathetic cures which have immortalized the name of Sir Kenelm Digby, and are, perhaps, too lightly thought of now. For what can be attested better, what more circumstantial, what more historical, and what more satisfactory, than the following case?

"Mr. James Howel, a gentleman celebrated by his 'Dendrologia' and other works, in endeavouring to part two of his friends in a duel, received a severe wound of his hand. Alarmed at this accident, one of the combatants bound up the cut with his garter, took him home, and sent for assistance. The king, upon hearing of the event, sent one of his own surgeons to attend him; but as in the course of four or five days the wound was not recovering very favourably, he made application to Sir Kenelm Digby, of whose knowledge regarding some extraordinary remedies for the healing of wounds he had become apprised. Sir Kenelm first inquired whether he possessed anything that had the blood upon it, upon which Mr. Howel immediately named the garter with which his hand had been bound, which was accordingly sent for. A basin of water being brought, Sir Kenelm put into it a handful of powder of vitriol, and dissolved it therein. He then took the bloody garter and immersed it in the fluid, while Mr. H. stood conversing with a gentleman in a corner of the room; but he suddenly started, and, upon being asked the reason, replied that he had lost all pain—that a pleasing kind of freshness, as it were a wet cold napkin had passed over his hand, and that the inflammation, which before had been so tormenting, had vanished. He was then advised to lay aside all his plasters, to keep the wound clean, and in a moderate temperature. After dinner, the garter was taken out of the basin and placed to dry before a large fire; but no sooner was this done, than Mr. H.'s servant came running to Sir Kenelm to say that her master's hand had again inflamed, and that it was as bad as before; whereupon the garter was again placed into the liquid, and before the return of the servant all was well and easy again. In the course of five or six days the wound was cicatrized, and a cure performed." 158.

If any are disposed to use that *reason*, so much abused, and to argue that the fact may be explained consistently with our knowledge of the nature of wounds, the right mode of dressing them, and a liberal allowance for the credulousness of the actors, and for a circumstance generally admitted to be true, that a good story never loses in the telling, we bid them hold their peace and go their way, and not intrude their wretched philosophy upon us.

We have done. The superstitions connected with medicine have been many—the humbug still mixed up with it is great—it has jumped with our humour to laugh at the one, and possibly to indulge in a sneer at the other—they have both amused us in an idle hour—and we only hope that few poor jokes, and a little raillery, may be taken in good part by those who have leisure to glance at such a trifle.

Traité de Pathologie Cerebrale ou des Maladies du Cerveau. Nouvelles Recherches sur sa Structure, ses Fonctions, ses Alterations, et sur leur Traitement Therapeutique, Moral et Hygienique. Par *Scipio Pinel.* Paris, 1844. 8vo. pp. 560.

A Treatise upon Cerebral Pathology or the Diseases of the Brain. By *Scipio Pinel.*

This work, principally devoted to the consideration of the changes which occur in the brain in the various forms of insanity, is intended by its author to be of an elementary and practical character, presenting to the student and practitioner an abridged but faithful summary of all that is known respecting the structure, functions, and diseases of the brain. It embraces several of his own researches, which he regards as new, upon acute inflammation of the brain, the indurated and œdematous condition of that organ, and upon general paralysis. He has divided the book into nine Chapters: the first treating of the General Pathology of the Nervous System; the second and third, of the Anatomy and Physiology of the Brain; the four next describe the various lesions; and the two last, enumerate their causes and detail their treatment. It is intended to give some notice of each of these Sections.

Chap. I.—General Principles of the Pathology of the Nervous System.

The author, after enumerating the various classifications of mental diseases adopted by Pinel, sen., Foderé, Georget, Esquirol, &c. observes that in all these the disorders of the understanding are taken as the basis, while the lesions of the various other functions of the nervous system are treated of as quite secondary, or are not even mentioned at all. In the brain, three principal functions are intimately combined, viz. the understanding, motility, and sensibility; and, although these possess very different characteristics, and are referrible to different localities, yet their relations in structure and function are so intimate, that they cannot be separated from each other, either in the study of the healthy or diseased conditions of the economy.

"If for a moment you can take courage to forget all that has been written upon this subject, and if as an impartial observer you enter amidst those vast assemblages of nervous affections which present themselves under every form and in every stage in the two great hospitals devoted to them at Paris, what do you first remark upon taking a general view of them? You there see some in a state of furious delirium, a greater number in calmer delirium, many more still in a state of simple dementia or paralytic dementia; you see entire sections of imbeciles, idiots, epileptics, and hysterico-epileptics; who constantly manifest extraordinary lesions of certain faculties, of certain desires, of the most grave disorders of the senses, of general sensibility, of motility and contractility. If you had the opportunity of observing these patients from the period of their admission to their death, and following them through their successive degradations, you would observe them for the most part pass insensibly from the state of furor

to that of mild delirium, then to the condition of dementia, paralysis, convulsions, epilepsy, imbecility, and so on, to the annihilation of every physical and moral power. Now is it not allowable for one who has had such a spectacle before his eyes for twenty years, to take a general view of this subject, and to believe that all these successive disorders, even while they constitute distinct affections, are in reality but more or less prolonged periods of the same disease! They are the expressions, in fact, of a series of alterations in the brain, which in the acute stage exalt at first all the sensory and motory powers of the organ, as in furor, hallucinations, acute delirium, and mania; which latter work a gradual change in its properties, and slowly give rise to the loss of memory, confusion and obliteration of ideas; and which, penetrating amid the motor and sensory fibres of the interior of the brain, then produce all the symptoms of paralysis, contractions, and insensibility; until, at last, affecting the most sensitive and most irritable fibres, such as those of the optic thalami, the pedunclcs, pons varolii, and medulla oblongata, produce the convulsive and epileptic attacks that presage the fatal termination of this slow succession of disorganizing processes which the cerebral mass has been undergoing. We are well aware that the affection of the brain does not always follow the regular progress; and that it may be first manifested either by epilepsy, or more rarely by paralysis, or by some other lesion of the understanding, motility, or sensibility. It little matters whether it rises from the base towards the periphery, or descends from the surface to the base. This progress does not influence the general results, and the rapid sketch we have drawn is sufficient to show the connexion and succession of all these cerebral affections, which with so little reason have been forcibly separated from each other."

Upon the foregoing principles Dr. Pinel founds his classification of affections of the brain, adopting indeed that which had been already in part developed by Andral. All changes in the brain, whether slight or extensive, give rise to certain derangements of functions, which are observed, either alone or united, under the following orders. 1. Lesions of the Understanding. 2. Lesions of the Propensities and Instincts. 3. Lesions of the External Senses and of Sensibility. 4. Lesions of Voluntary Motion.

The author protests strongly against the practice of regarding mental diseases as distinct in their nature from other affections of the brain. He regards it just as rational as it would be on the part of a pathologist, who, treating of the diseases of the respiratory organs, should confine himself to their most frequent symptom, the cough; should divide and subdivide this according to its various kinds; and having thus converted it into a special branch of medicine, should maintain that there existed no connection between the cough and the various bronchial and pulmonic changes. This is, however, done daily with regard to disorders of the intellect without its absurdity being perceived. Diseases of the brain, whether slight or severe, should be subjected to the same principles which regulate ordinary pathology, and the first step towards the accomplishment of this, is to remove the sense of vagueness with which nervous diseases are regarded. Every nervous symptom depends upon a temporary or permanent lesion, an organic change, whether slight or serious, in the structure of the nerves or in the nervous centres; and, if the morbid condition continues for some time, an alteration of structure appreciable by our senses, the microscope, or by chemical analysis, is always to be found. Those who fail to discover this often, do so from their imperfect acquaintance with the normal structure. A long experience in making these examinations can alone effectu-

ally show the almost constant correspondence between the functional lesions and the organic changes. Such changes are always found, but their form and appearances are often very variable, and quite peculiar to the nervous system, and of which the language in ordinary use forms a very imperfect means of description.

CHAP. II.—ANATOMY OF THE BRAIN.

This chapter contains an account of the comparative anatomy of the brain, a full description of its healthy condition in man, and a general view of the morbid changes observed in it by various writers on insanity. An analysis of what is itself but a summary would be scarcely intelligible, and we will not attempt it.

Morbid Changes in the Brain in Insanity.—Of 216 cases reported by Greding, the bones of the cranium were found much thickened in 167, and very thin in 38. The most frequent and most manifest alterations were situated in the membranes of the brain. Soemmering attributes mania to inflammation of the brain. The observations of Haslam are fertile in examples of morbid changes after death of various kinds situated both in the membranes and the substance of the brain. Portal prefers doubting the sufficiency of his own senses to believing that a mental malady can exist without physical changes in the brain. Esquirol, writing in 1812, described various morbid changes, especially in the membranes of the brain, and accompanied by effusions; but, writing in 1835, he states that post-mortem examinations are insufficient in determining the material causes of insanity. A strange contradiction, considering the great progress these investigations had made in this interval. Gall and Spurzheim admit the frequency of sufficient causes of insanity being discoverable after death. M. Lallemand attributes very opposite lesions to one cause —meningitis. M. Foville states, as the result of his numerous researches, that the brains of the insane present, in general, the anatomical appearances seen in inflammation, and that such are seen more often in the brain than in its membranes. Changes in the cortical substance are the most constant of all, and are directly connected with the derangements of the understanding; while those occurring in the white portions influence the movements. MM. Bochet and Cazanvieilly conclude that epilepsy is a chronic inflammation of the white substance, and that mental alienation arises from inflammation of the cortical portion. M. Calmeil attributes the paralysis of the insane to inflammation of the gray substance and of the membranes of the brain. The same changes have been observed by Davidson in more than 200 insane patients. Bertolini observed morbid changes, especially in furious mania and in dementia with paralysis. M. Ferrus declares that, according to his experience, the alterations produced by nervous diseases, are as distinct as those occurring in any other part of the body. M. Parchappe reports a great variety of morbid appearances occurring in 130 bodies examined by him during three years. The result of the whole, according to our author, is, that there are superabundant facts for constituting a correct pathological anatomy of the brain as

of that of any other organ; and that even the multiplicity of facts gives rise to a degree of confusion, which he hopes by bringing each malady in approximation with its appropriate organic change, to be instrumental in removing in the present work.

CHAP. III.—PHYSIOLOGY OF THE BRAIN.

This chapter contains a tolerable good but condensed resumé of the more modern researches upon the physiology of the cerebro-spinal system. It is however not a little surprising that a treatise, professing to afford the latest information upon this subject, and especially with a view to the treatment of the diseases of the nervous system, should not contain the most distant allusion to the excito-motory theory, as developed by Hall, Müller, and other distinguished observers.

Although the author is a strong advocate for the localization of the various cerebral actions, he is no admirer of the organology of Gall; and takes several opportunities in the course of his work to criticise it.

CHAP. IV.—LESIONS OF THE UNDERSTANDING.

These are manifested under three forms very distinct from each other. 1. In a state of *exaltation*, comprising acute delirium; mania or maniacal furor; monomania of ideas separable from monomania of the propensities; and cerebral hallucinations separable from illusions of the senses. 2. In a state of *feebleness*, comprising chronic delirium, (melancholia, lypemania;) stupor, or cerebral œdema; and ordinary dementia. 3. In a state of *abolition*, more or less complete, comprising idiocy and imbecility.

1. *In a state of Exaltation.*

A. *Acute Delirium.*—This differs from other disorders of the intellectual faculties by its shorter duration, during which period, however, it may present the same symptoms as they do. It is accompanied by much febrile action, and is usually caused by some phlegmasia. Dupuytren has exactly described it, when sympathetic of local injury, under the name of nervous delirium. Few diseases, whether acute or chronic, terminate fatally without this occurring. It is produced by alcohol, as seen in drunkenness, and narcotic substances. Derivatives are useful; but general bleeding often leads to a condition of chronic mania.

B. *Acute Mania or Maniacal furor (Acute Cerebritis.)*—Disease is frequently making insidious progress before the attack of mania excites alarm. Peculiarity and change of manners and habits may often be remarked even for months prior. The invalid sometimes makes great resistance to the progress of his infirmity, and endeavours to conceal it. Pains and heat of the head, feverishness and restlessness, with derangement of the digestive or uterine functions, are common. Confirmed delirium becomes in some gradually established, and in others more suddenly so. At the commencement, the disorder of the intellectual functions predominates, and

when the disease has once declared itself, its symptoms are marked, and not to be mistaken. The period of excessive excitement varies from some days to many months or years; but, in the great majority of cases, some remission of symptoms is found to occur about the second or third month. Such diminution of symptoms is, under proper management, usually the prelude towards a cure, which is sometimes operated in a very short time, but usually not until after six months, a year, or longer.

Acute mania is terminated either by a cure, a passage into a chronic incurable state, or in many cases by death, which is often very sudden. The cure is sometimes as sudden as the invasion, but this is rare, and is in such case seldom permanent. One of the most certain signs of convalescence is a return of the natural affections for friends and relations. The calm and tranquil condition of the countenance is much to be depended upon, except in the case of monomaniacs. As a cure approaches, the face often becomes thin, and the eyes sunken. This does not arise from actual loss of substance, but from the diminution of the tension and erethism of the parts; the blood, in place of being carried towards the head, remaining in the large vessels and splanchnic cavities. Although the doctrine of crises was carried too far by the ancients, there can be no doubt that critical discharges and excretions frequently do occur, and patients who have experienced such are less liable to relapse.

Sudden death during the stage of violent excitement, which may have perhaps lasted from two or three to thirty days, is by no means rare. One is surprised to find a patient dead in the morning, who, the evening before, was in a condition of excessive excitement. At other times, after months or years of agitation, a sudden calm and silence succeeds, and in a few days the patient dies in a stage of complete stupor and paralysis.

During the existence of acute mania or cerebritis, changes are determined by the great afflux of blood in both the cortical and medullary substance of the brain. The *gray or cortical substance* is separable in these cases into *three layers*, the inner, in contact with the white substance, preserves its gray appearance nearly unaltered; the outermost layer consists often of an evident white, thin, albuminous exudation, at other times of a pale colour. The essential changes occur in the middle layer placed between these two. It is of a bright red, from the excessive distension of its blood-vessels, and in the early stages of the affection of a firm consistence. When the delirium lessens in intensity, the colour becomes brownish, and the consistence of the pulp less firm. The *white substance*, being more compact, resists more the passage of the blood. Yet the injection of its capillaries gives its white colour a livid appearance, while ecchymoses, in the form of black spots, are found of varying extent. The fibrous appearance seen in the healthy brain is destroyed. If the inflammation be not arrested, the substance becomes soft and diffluent, a change which is promptly mortal. Suppuration or hæmorrhage may occur; and, if the disease become chronic, the white substance undergoes a slow induration.

c. *Acute Monomania.*—This may arise from the perversion of a single idea or one train of ideas, the reasoning powers continuing sound upon other subjects. This, the monomania of the intellect, is to be distinguished from the monomania of the propensities. This form of monomania usu-

ally arises from ambition or pride in men, and from vanity, love, or religion in women. They form some of the most irritable and intractable, of patients, persuaded, as they usually are, that their detention arises from machinations, and employing their reasoning powers in sustaining their chimeras. The distinction of the two forms of monomania above alluded to, may be illustrated by reference to *suicide*. Suicidal monomania, resulting from the perversion of the instinct of self-perservation, can seldom be prevented, and its victim seeks his destruction by any means that offers itself. The other form of suicidal monomania results from false preception and false judgment. A man believes himself detested by his family, or accused of dreadful crimes; another believes that in killing himself he is obeying God, and avoiding eternal damnation. Religious terrors easily overthrow weak intellects. These patients carefully conceal their design, will only terminate their lives by the description of death they have chosen, and often manifest a wonderful address and perseverance in accomplishing it.

D. *Cerebral Hallucinations.*—These are certain sensations which are roused in the brain of the insane by the mere excitement of that organ, without the actual presence of the objects which these sensations represent. Dreams are exact examples of hallucinations, for in them we see, hear, and touch objects which have no existence. The term illusion should be confined to affections of the senses and of sensibility. Hallucinations are the more worthy of study, because they usually precede the attack of mania, and, when they continue, can alone explain the tenacity of the erroneous ideas of the patient, and the secret motives of his determinations. As M. Archambaut observes, the man who hears a voice or sees a friend when no external object is near him, does not merely believe that he hears or sees this, but really does so: the sensation exists for him, although the senses are not actually excited. The frequent complication of insanity with hallucinations is difficult of remedy; for the patient judges and reasons from his hallucination as a reasonable man does from his sensations. In hallucination, all passes within the brain, the action of the senses forming no part of the impression: in illusions, perverted impressions of the external senses are conveyed to the cerebral centre.

2.—*In a State of Feebleness.*

A. *Chronic Delirium* (*Chronic Cerebritis.*)—When acute mania is not cured it degenerates into chronic delirium, which is itself but the commencement, sooner or later, of a state of dementia. To the condition of excitement, the stage of debility has succeeded. The patient speaks little or none, and although his organic functions remain perfect, his intellect has lost its energy. Before degenerating into incurable dementia, during a lapse of time, sometimes a considerable one, this disease may remain nearly or quite stationary. It is difficult to decide during this period whether it is incurable or not, and a decided opinion must not be given until the expiration of two or three years, after which time a cure is rare. Short lucid intervals often deceive. So marked is the change of habits and ordinary ideas during the disease, that no hope of cure exists while this continues the case. The return to the ordinary tastes and sentiments alone presage it.

B. *Cerebral Œdema—Acute Dementia—Stupidity of Georget—Stupor of Orfila.*—Esquirol first described this disease. He observed that the insane are often seized with a rather sudden extinction of all their faculties, forming a very different condition to ordinary dementia, inasmuch as it almost always attacks young subjects, and terminates favourably. He termed it *acute dementia*. This affection, attended with temporary prostration of the intellect, is dependant upon a particular œdematous condition of the cerebral convolutions, quite distinct from the effusions known as acute or chronic hydrocephalus.

Upon examining cases which have proved fatal, the membranes of the brain are found thin, but much raised by the subjacent serum. The pia-mater is however thickened and much injected. The superior and lateral convolutions are flattened, and compressed against each other. The *gray substance*, in proportion to the quantity of the serum, loses its natural colour and becomes spongy and infiltrated. Its vessels are gorged with the serum. Drops of this fluid ooze out as the part is cut. There is less apparent imbibition by the *white* portion, but drops of fluid may always be pressed out by the fingers. On tearing the white substance through, its capillaries, injected with serum, are visible. Of nine cases examined, one only presented fluid in all the cerebro-spinal cavities. In all the others the œdema was partial and circumscribed to the superior lateral, the anterior, or the posterior regions of the brain. In no case was the fluid found to have descended to the base of the brain. In one case only had it penetrated into the ventricles, which were ordinarily flattened and compressed. Cerebral œdema is not an isolated disease, and only developing itself accidentally in the insane; it is part of a lymphatic predisposition, and accompanies usually œdema in other parts of the body, whether of the principal cavities, or the joints.

The symptoms of cerebral œdema are manifested first in a gradual lesion of the general *sensibility*, then of locomotion, and lastly of the intellect. As soon as the effusion commences, certain portions of the skin lose their sensibility, and in other cases become perverted as regards the perception of heat and cold. In many cases the insensibility of the skin is excessive, so that it may be pricked, burned, &c. without any pain; and the mucous membrane of the nostrils and the conjunctiva are similarly inirritable. As regards *locomotion*, the patient feels at an early period, an indisposition and difficulty in moving his limbs. He is not paralyzed, for, although the movements require an enormous effort, they are still possible. The patients will remain standing in one position for hours together. In some examples, a condition much resembling catalepsy was present. The lesion of the *understanding* is very marked. To the most violent agitation, or delirium, succeeds a perfect calm. The most extraordinary hallucinations torment the patient, his memory and powers of attention early become confused, his ideas vague, his articulation difficult or impossible. When the œdema is more advanced, complete stupor prevails, during which state of insensibility, however, a consciousness of his condition sometimes remains; as those who have been cured have afterwards stated, although at the time they possessed neither the power or desire of expression of any kind. The alimentary canal suffers from a like atony; and hunger, thirst, and the excretions become impeded. The movements of the heart are remarkably lessened in number, the pulse falling sometimes to 40 or 30.

Unless accompanied by some grave complication, this disease, although of frequent occurrence among the insane, is rarely mortal; but is almost always cured after a duration of some months. In nine years the author has had but five opportunities of making an examination after death.

c. *Simple Dementia.*—This is the general enfeeblement of the moral and intellectual faculties which terminate all incurable deliriums; and is characterized by absence of all power of reasoning, forgetfulness of the past, and indifference as to the present and future. The organic functions may be completely executed, and the general health robust. As the affection advances it becomes complicated with paralysis, and for years before his death the patient may be confined to his bed. There generally exists in this condition a species of white induration of the cerebral substance. It presents different degrees in dementia and in complete idiocy. In idiots, and especially in those in whom, as often happens, an entire hemisphere is atrophied, cerebral induration is very manifest, the texture of the brain being dense, elastic, and converted into an almost fibro-cartilaginous tissue. In dementia, the induration, although less considerable, is no less remarkable, whether as relates to its anatomical characters, or to its coincidence with the diminution of the cerebral functions. The brain, which in its natural state possesses a softish consistence and is traversed by such numbers of delicate vessels, becomes in dementia of a dull white colour, and of a hard, resisting, fibrous texture, in which the vessels have disappeared. The same induration is met with frequently in epilepsy, explaining the successive annihilation of the various intellectual faculties, which at last terminates in confirmed dementia.

3.—*In the State of Abolition, (Idiocy and Imbecility.)*

Imbecility differs from idiocy by not being congenital, but resulting, in individuals who have possessed their intellects, from a successive degradation slowly developed. Not only have idiots the intellectual organ malformed, but their whole economy participates usually in the condition of suffering. They are usually small, ill-developed, and short-lived. Others are rickety, scrofulous, epileptic, or paralyzed. Almost all manifest the change in the cerebral structures already noticed. The indurated nervous tissue resembles an inorganic substance, which is best compared, as regards colour and density, to a hard egg. The cerebral substance is depressed, and the eye can detect no trace of capillary vessels. Submitted to the action of fire, it becomes tough like horn, emits a strong and penetrating odour, and leaves a blackish, polished, compact residue. A portion of healthy brain similarly treated gives different results. It expands, emits scarcely any and leaves a light and brownish residue. The induration seems to affect especially the white rather than the gray substance. In the affected portions the nervous pulp may be torn into fibres, varying in direction, accordingly as the brain, the cerebellum, or the medulla, is the part in question, and corresponding with the most recent researches upon the structure of these parts. The elasticity and fibrous disposition of this species of induration sufficiently distinguish it from other forms occurring in other diseases of the nervous centres.

MISCELLANEOUS CONTRIBUTIONS TO PATHOLOGY AND THERAPEUTICS. By *James Richard Smyth*, M.D. Pp. 341. London, 1844.

THE Essays which this volume contains originally appeared in the weekly medical journals, and are not, in our opinion, of a sufficiently original or important character to justify their republication in the present form. If, indeed, we are to admit as a necessity, as it has become almost a rule of modern practice, that every practitioner should have, as part of his armory, his own work gracing the shelves of his library, then we are free to allow that we have perused many works containing fewer facts and less interesting observations than the present. But to the existence of any such necessity, at least as far as readers are concerned, we are disposed to demur; and the great utility of the medical periodicals consists in the ready vehicle they form for the reception of observations too important to be lost, and yet not sufficiently so to appear in a more substantive form. In this way channels for the circulation of facts and opinions are opened to an extent attainable by no other means, while equal opportunities being afforded for corroboration or refutation on the part of others, whatever of real value the contributions may contain is eventually elicited, and an equivalent reputation cheerfully accorded to their author by his fellows. Great as these benefits doubtless are, they are not unattended by disadvantages; for the facility of "rushing into print" possessed in medical which does not prevail in general literature, frequently gives rise to the production of many crude and worthless communications, and to many others, to which although such character cannot attach, would still have much benefited by their publication being delayed until a more matured judgment, and more extensive experience had been brought to bear upon their investigation. We do not apply these latter observations to Dr. Smyth's papers, which are very interesting ones, although not possessing sufficient stamen to render their collection into an expensive volume a desirable proceeding.

The subjects treated of by the author are Rickets, Chronic Hydrocephalus, Cerebral Auscultation, Impotence, Hæmoptysis, Rheumatic Pericarditis, and False Aneurism—and we may extract a few of his observations upon some of these.

Rickets—In the Preface the author observes, "It will be seen that I have attributed the origin and phenomena of that affection chiefly to infantile indigestion; and that enlargement, in a greater or less degree, of the liver, is a prominent feature of its pathology; and requires to be duly considered in the treatment of the affection. It will also be seen that I look upon rickets and scrofula as diseases identical in their causes and natures, and demanding for their cures similar remedies and modes of treatment. Next to the subject of rickets, I have treated of that of hydrocephalus, as I consider the two maladies, and also that of scrofula, as manifestations of the same morbid diathesis."

The great influence which the condition of the liver exerts upon the

economy in this disease is alluded to in other passages, as in the following:—

"My experience, I acknowledge, does not enable me to say to what extent enlargement of the liver, and more or less prolonged defect or vitiation of the biliary secretion in children, deranging and impairing the processes of infantile digestion and hæmatosis, may be connected with the proximate cause and early phenomena of rickets; but I could not avoid observing, during the treatment of the first two cases of the subject of this paper, in which great enlargement of the liver was present, that the return to a more healthy size of that viscus, and improvement of the general condition of each individual, and marked amendment of the rickety symptoms, were perfectly simultaneous. * *

"Is it unreasonable to suppose that if the liver should become diseased or defective in function, and continue for any lengthened time during infancy, the period of most tender growth and conformation of the individual, it must affect, in some very obvious manner, the processes of assimilation and healthy organic formation throughout the entire system? Look at a child, the subject of slight taint, or what you might consider as the state of commencing rickets. Criticise its entire condition. Does it not bear a strong resemblance, in many points, to that of an adult whom one would suspect to be labouring under some chronic concealed affection of the liver? So has it, in fact, not unfrequently struck my observation. At all events, I am firmly of opinion that the practitioner who will view the infantile affection now under consideration as one simply of hepatic disease, with more or less aggravated derangement of all the digestive functions, and so apply his remedies judiciously in accordance, will be he who is most likely to benefit, and in all respects improve, the condition of his patient." 20.

That the same exciting causes which so generally prevail among the children of the lower classes may sometimes produce scrofula, at others hydrocephalus, and at others rickets, there can be no doubt; but we are far from believing that these affections are hence necessarily identical, or to be relieved always by the same proceedings. For all, the amendment of diet and other particulars of faulty regimen is indispensable and alike, but for each some distinctive medical procedures are afterwards requisite which are not equally applicable to all. Indeed, we suppose that Dr. Smyth, notwithstanding he considers these affections identical, would scarcely recommend the condition of the liver to be the grand and primary object of attention in scrofula and in hydrocephalus as he does in rickets. It is well known that in most cases of rickets this organ is much enlarged, and in many, the mild alterative aperients which he recommends, the hydr. c. cretâ with jalap, and sulphate of potass and bicarbonate of soda, may often be useful in aiding in the due regulation of its functions; but we are convinced that the treatment of scrofula by mercurials as a general rule and leading object, would lead to as much mischief among children as the too general employment of calomel and blue pill in various forms of indigestion does among adults. It is somewhat strange that the author, who believes scrofula and rickets to be almost or quite identical diseases, considers *tabes mesenterica* and rickets as quite distinct affections in their origin and symptoms. This is a nicety of distinction we are quite unable to appreciate. He believes that the enlarged belly of diseased children is often attributed to diseased mesenteric glands, when it really arises from an increased size of the liver. This is doubtless the case sometimes, if the examination which is made be too superficial; but we suppose that these instances are comparatively rare, as post-mortem examinations far

more frequently exhibit an enlarged condition of these glands than of the liver.

Dr. Smyth speaks highly in praise of the regimen recommended for scrofulous children by Sir Astley Cooper, consisting of an abundant supply of animal food, warm clothing, free exercise, and alterative medicines. "There is an error, in my opinion, abroad, of no little evil operation, in *some* instances, as regards the use of animal food. With a great many individuals, notwithstanding what the advocates of vegetable and farinaceous aliment may say to the contrary, this article of diet is unquestionably taken too sparingly, or its use is not properly timed. The presence of animal food in the stomach at an early period of the day, acts, with many persons of peculiar temperament and constitution, not only as an efficient remedy in soothing and allaying general irritability, and vascular overaction dependent thereon, but it also performs the part of an anodyne and agent of cure in various dyspeptic neuralgias and irritations. Of this there can be no doubt; but when animal food is prescribed three times a day, as invariably the best means of counteracting tendency to a scrofulous condition of the economy, we must bear in mind the wise cautions delivered to us by Sir James Clark: for although such regimen would undoubtedly be the best for many feeble children in the lower classes if they could obtain it, it is no less true that those of the upper classes, in families in which scrofula has prevailed, frequently are brought into a diseased condition by an undue supply of animal food furnished to them through the fears of their parents having been excited by the observation of the ill effects of an under-fed condition. The disease may thus in fact be engendered by two opposite means, both of which equally, although in different ways, disorder and enfeeble the powers of digestion.

We quote part of some not very intelligible remarks upon the circulation.

"Frequently, as may be observed, when the pulse is beating rapidly, and from this, with other relative symptoms, one might be led to infer that the circulation was in a state of hurry and acceleration, it is not so, but just the reverse obtains—*the blood* is moving slowly, while the heart and arteries, the containing vessels, are acting inordinately. Such discordance in the motion of the blood and its active circulatory apparatus constitutes a condition of disorder frequently met with, of *false* excitement—*excitement with debility*. It is more hardness or resistance, I conceive, in the pulse, together with fulness, and not a high number of beats in a given time, which indicate and announce a rapid strong circulation; and the best ordinary method of nicely appreciating these qualities in the circulation is, when the fingers, in feeling the pulse, have remained some time upon it, to slightly raise them, and gently repress the vessel. * * * * * * * I have an unsettled opinion, too, that the motion of the blood in the child is slower than in the adult, although its pulse is always considerably more frequent." 60.

Chronic Hydrocephalus.—A case is related at very great length, in which the operation of tapping was performed upon a child a twelvemonth old, and repeated nine times in the next four months. The quantity of water removed varied from four to forty ounces, amounting in all to 143 oz., sixty-four additional ounces being found in the head after death. Some amendment of symptoms followed the first six operations, although the

water rapidly re-collected in increased quantities, but the latter ones were only performed in the hope of palliating some of the most distressing symptoms. The success which attended Dr. Conquest's operations* does not seem to have been obtained by other observers; and, judging from the results furnished by Dr. West's interesting analysis of cases,† we cannot doubt that the operation will ere long fall into disuse. The author thus alludes to what he considers may be one cause of failure, having previously observed that no marks of inflammatory action were found in the vicinity of the punctured portions of the brain.

"These facts have induced me to think that, perhaps, in this case, it was not so much the puncturing of the brain as the consequent collapse of the organ which gave rise to its several attacks of inflammation; and this opinion, it may be allowed, receives more than a little corroboration by my having observed, during the treatment, that the symptoms of cerebral inflammation and the state of cerebral collapse were always concomitant; that, after each operation, although the brain necessarily became more or less collapsed, if that state continued longer than 24 hours, it was afterwards accompanied by general febrile excitement and symptoms of cerebral inflammation; and that, on the disappearance of these, the dropsical effusion was again quickly repeated, and the brain rendered distended and tense. Such phenomena I observed not only once, but three or four times; and the mode in which it would occur to me to explain them would be, that, under the condition of collapse, the mass and weight of the brain, instead of being supported and pressing, as in the healthy state of the organ is the case, on the sides as well as on the floor of the cavity of the cranium, pressed wholly on this latter part, thereby producing more or less obstruction of the circulation, with some degree of irritation of the interposed membranes, on which the inflammatory attacks supervened; that, during the existence of these attacks, and more especially of the sympathetic febrile excitement, owing to and concomitant with the *general* arrest of secretion and exhalation which accompanies and characterizes such a state of the system, the *local* effusion in the present instance was suspended, and the brain, in consequence, remained collapsed. But, as has already been remarked, as these inflammatory and febrile states disappeared, and the processes of exhalation and secretion generally resumed activity, the dropsical effusion was speedily repeated, and the brain rendered distended and tense." 135.

Dr. Smyth recommends, therefore, that in future operations collapse should be prevented by limiting the quantity of water extracted at one time to from four to six ounces.

Cerebral Auscultation.—Unaware that the phenomenon had been observed previously by some of the physicians of the United States, Dr. Smyth described, in 1837, the results of auscultation applied to the heads of rickety and hydrocephalic children, and subsequent experience induces him to believe that a certain sound precedes and accompanies dropsical effusion into the cranium.

"It is an abrupt, brief, rushing, arrested sound, in tone something between a *bruit de soufflet* and a *bruit de rape*; not soft enough for the former, nor hard enough for the latter. In its character of intensity it varies, of course, with the

* See Medico-Chir. Rev., July, 1838, p. 278.
† Med. Gazette, xxx., 127.

energy of the action of the heart and pulse. When the circulation is excited and vigorous, and the heart, unembarrassed by palpitation, beats steadily and strongly, the sound is most clear and audible."

The author observes that, although the subject has not been followed up effectually in this country, it has met with better success in America. Dr. Whitney enumerates the following conditions, in which the cerebral murmur can be heard: viz. simple congestion of the brain; acute inflammation with or without effusion; chronic hydrocephalus; local compression of the brain; ossification of its arteries; induration of its substance; aneurism of a cerebral artery; certain hydrocephaloid diseases and states of excessive anæmia and exhaustion of the system, *e. g.* severe chlorosis and amenorrhœa. "In cases of chlorotic cachexia and severe general and cerebral anæmia, the cerebral murmur or bellows-sound is observed to become modified in its character, and to acquire some tones similar to those that are blended with the respiratory murmur in bronchitis. It acquires musical, cooing, chick-like tones. In aneurism of a cerebral artery it puts on a thrilling, purring character." Dr. Whitney further states that the *voice*, as heard by applying the ear to the skull, undergoes remarkable changes.

"This last sound in certain cases of cerebral inflammation and effusion between the membranes and on the surface of the brain, has been observed to undergo a change of character, similar to that which it undergoes in its passage through the lung and wall of the chest in some cases of pleuritis and pleuritic effusion. It acquires an ægophonic tone, which, according to the American writers, may be considered as a certain diagnostic sign of effusion between the membranes of the brain. Thus, it would appear, that we have a cephalic ægophony expressive of a particular condition of disease of the brain, as we have a thoracic ægophony expressive of a particular condition of disease of the chest." 151.

Impotence.—In the more than one hundred pages which the author devotes to this subject, we can discover little or nothing of novelty or interest. We believe cases, similar to those which he details with too great prolixity, are continually falling under the notice of every well-employed practitioner. That impotence may depend upon a generally disordered or diseased condition of the economy, rather than upon any particular lesion of the generative organs, is well known; and probably every medical man would seek, as the author did, to restore health by the due administration, first of aperients, alteratives, stomachics, &c. &c., and then of chalybeates, and by attention to diet and other points of regimen, rather than by any attempt at the employment of any more specific treatment. So, too, in those cases, constituting the majority, in which impotence results from the excessive or perverted employment of the sexual organs, and is, as it always is, accompanied with a shattered condition of the general health. This last becomes the main object of attention, and providing all improper practices are discontinued, when it is amended, we frequently find the function of generation restored. All this, which, as well as the vast depressing influence this class of disorders exerts upon the mind, the author seems to announce almost as a novelty, has been long known to, and is continually acted upon, by every well-educated medical

man. The misfortune is, however, that a diseased condition of the economy, which perhaps years of misconduct have entailed upon the sufferer, requires at least months of a carefully adapted and diligently pursued course of medical treatment to produce any alleviation, and a still longer period to prevent the likelihood of a relapse. The patient soon gets tired of this, and flies from practitioner to practitioner in the hopes of finding a readier road to restoration, until at last, he throws himself in despair into the arms of quackery, which promises him every thing he requires, and, by the influence upon the mind which bold assertions, that no respectable practitioner would hazard, produce, such promises even may sometimes be realized. Few practitioners of credit have these cases long enough under their care for the full operation of the remedies prescribed; and some of those which the author concludes were cured by the judicious means he recommended, because they did not apply to him again, may probably have sought assistance elsewhere.

While upon this subject, we may observe that the manner in which some of the cases are narrated, is somewhat unusual for publications intended solely for the profession, and gives the work somewhat of an appearance which we feel sure the author never intended it should put on. Thus the symptoms and progress of the case are often related by the patients themselves, just as we find they are in empirical publications. For example, one begins—"Sir, I have been induced, by the perusal of your paper in a number of the Lancet, to seek your opinion and advice. An abject and degraded being, (for whom language has no name,) I could not consult you personally, and feel that I owe you an apology for addressing you on such a subject. * * * I am, Sir, your obedient servant, H. I. Address Post-office, C——h street." Again—"Sir, I have lately taken up a number of the Lancet, in which it appears that you have treated successfully that disease which I had almost given up in despair as absolutely incurable, namely, a case of impotence, arising, to a certain extent, from early depraved use of the genital power. Pray advise me under similar circumstances. * * * I am, Sir, your obedient servant, R. S. I. Post-office, C——t street." And then we have repeated notes detailing the various symptoms, effects of remedies, &c. Now, when we consider that these papers appeared originally in the Lancet, a work which professes to circulate much among the lay-public, we think this graphic style of narration might advantageously have been exchanged for one more simple, and certainly more usual, quite as convincing, and involving much less repetition of details, which at the best do not form the most agreeable reading.

Dr. Smyth believes that the intimate connexion of a diseased condition of the generative organs and disorders of the intellect is not sufficiently appreciated.

"The constant association of sexual disorder, and more or less of generative incapacity, with mental derangement, whether as cause or effect, is a remarkable fact, and one which appears to me not to be very generally known; yet I will venture to say, that every insane individual, whether male or female, is at the same time also the subject of some sort of procreative disability, defect, or disorder, either impotence or sterility, or both; and the removal of the one affection (most frequently, I apprehend, the mental) would often seem to prove immedi-

ately curative of the other. I have seen several instances of insanity accompanied by impotence and barrenness in both sexes, in which such, certainly, appeared to have been the case, in which, by the adoption of a similar mode of treatment in each case, the return of reason, and the rescuscitation of the sexual powers, were so strictly concomitant, that it was impossible not to infer but that either the one disease was the cause of the other, or that both affections depended upon one common cause." 173.

One of the offices of the seminal fluid is thus stated:—

"The spermatic fluid, which every one knows it is the office of the testicles to secrete, every one should at the same time be aware is not, as it is too commonly supposed, an excrementitious fluid, and intended, like the urine, to be eliminated from the body; but, on the contrary, (except during an occasional act of generation), to be received into the circulation, and thence distributed to every part of the system. It is the presence of the semen in the circulatory fluids of the male, and the accumulated influence of unexhausted ovaria in the system of the female, which gives to the countenances of the continent and chaste the peculiar expression of energy and vigorous health which generally characterise them, and which, though the features themselves should not be fashioned to the lines of beauty, never fails, notwithstanding, to impress the beholder with a sense of admiration, and some feeling of respect." 177.

Dr. Smyth sets a high value upon Plummer's pill, as an alterative after due purgation in certain cachectic conditions of the economy.

"In cases in which the pathology is not a thing of morbid relievo, positive, and substantial, but more a condition the reverse, a condition altogether of degree of physiological imperfection, the proximate causes of the affections consisting, for the most part, in weak and languid circulation generally, and tardy and defective performance of all the vital functions—Plummer's pill, as an alterative, rightly timed and apportioned, is without an equal. It seems to me to enliven and excite, in a peculiarly salutary manner, all the nutritive actions of the economy, and also to leave upon these, after its administration has been discontinued, a somewhat persistent impression of its virtue. No simple or compound medicinal substance, that I am acquainted with, possesses the power to such a degree, of developing animal heat generally throughout the system, without the weakening accompaniment of perspiratory moisture; on which account, perhaps, it is that I have found it an exquisite tonic and deobstruent, in cases of dyspepsia, of general cachectic debility, and of amenorrhœa, in persons of cold phlegmatic temperament. Sometimes alone, and occasionally in more or less quantity in union with myrrh and aloes, (as in the pill of aloes with myrrh of the Pharmacopœia,) I have found it successful in the cure of amenorrhœa, after chalybeates and a variety of other emmenagogues had been tried in vain. I have also witnessed its good effects in the cold species of chronic rheumatism. It is, unquestionably, I think, the mildest and most delicate alterative we have." 215.

ON THE DECREASE OF DISEASE EFFECTED BY THE PROGRESS OF CIVILIZATION. By *C. F. H. Marx*, M.D. and *R. Willis*, M.D. &c. London, 1844.

WITH the contents of this little volume we have already been made acquainted, as they appeared very recently at different times in the pages of the London Medical Gazette. We think Dr. Willis has done good service, not only to his professional brethren but to the public generally, in bringing it out in its present form. We fully concur with the Doctor in regretting that physicians have no place in the body politic, and in thinking that it would be well for humanity if they had. It cannot be denied that, since the revival of letters in Europe, medical men have been foremost in every undertaking whose object has been to extend the boundaries of knowledge and to exalt mankind. No class of men know half so much of the wants and the wishes, of the joys and the sorrows, of the community—they it is, who are the friends and comforters, in adversity especially, of persons in every grade of life—from the sovereign and the peer to the wretched outcast in the street. They it is, who follow in the field through the thickest of the fire, not that they may aid destruction in her work, but God-like, that they may stanch the wounds she makes. "Oh!" feelingly exclaims Dr. W. "let society cherish and exalt its medical community; let it become aware that if *science* cannot aid it in its struggles with disease, neither can *ignorance;* that nothing can by possibility be known to the quacksalver and empiric that is not familiar to the educated physician; that a youth of preparation, and a life, however protracted, of ceaseless devotion to his art, are all too little to familiarize him with all the varieties of disease, and the means of meeting them successfully; and that there is no access to the temple of medicine, save through an intimate knowledge of the laws by which we live and move, and have our being."

It is a frequent complaint that the present times, however rapidly they advance in an intellectual point of view, still fall short, physically and morally, of what they ought to be; that mankind are obnoxious to many more diseases now than formerly. There is much that, on a hasty survey, seems to countenance such complaints; in especial, the excessive refinement of manners, and the luxuries attendant on civilization; whence effeminacy and debility—the swelling nomenclature of diseases, and the endless variety of means of cure. The authors of this volume consider such a view, however, as wholly without foundation. They undertake to show that, with the increase of civilization, the sanatory condition of states and smaller communities has undergone an actual improvement; that diseases, on the contrary, have rather been falling off in number, and decreasing in intensity; and that every onward step in the path of knowledge and true refinement has had a beneficial influence on the entire corporeal being of mankind. It cannot be denied, that, with the progress of civilization, not only does population in general increase, but that the length of individual life is augmented, whilst the liability to sickness, and to the sufferings to which every individual born is obnoxious, are lessened.

Epidemical diseases, formerly regarded as necessary evils, and inseparable from humanity, are now known within civilized nations only by name. Though perhaps disposed to consider that a life spent in tilling the ground, in fishing, and in hunting, must afford the greatest number of hours for undisturbed enjoyment, still we must draw the distinction between that intercourse with nature which is taken as pastime, and that which is taken as a means of supporting life. The peasant, the fisherman, and the hunter, have other tales to tell besides those connected with pleasure and felicity. In the absence of all occupation for the higher faculties, the soul dreams on but too readily in a slumbering or half-waking state. To real, to perfect health, harmony of the corporeal and spiritual aptitudes is indispensable. The cultivation of the higher powers is not necessarily coupled with anything that is pernicious. The requirements of society, so often opposed to reason, are constant causes of a more passing or more permanent interruption of the sense of well being; but with a little prudence and reason, the legitimate fruits of good education, the prejudicial influences of such circumstances may be greatly diminished, or entirely superseded. In virtue of the support derived from cultivated intellect, man becomes capable of giving successful battle to all the external influences that tend to its detriment—the enlarged views engendered under the influence of social co-operation, tend to arouse the corporeal energies. Good sense and moral equilibrium present themselves as the means best adapted for achieving elasticity under the sorest bodily inflictions. Some travellers, who have lived long among uncivilized people, speak of but few diseases as prevalent among them. The authors ask, and very justly ask, are those rarities real? is not the reason to be sought rather in the inhumanity of the natives, in some sort commanded by necessity, and sanctioned by custom, and in the insufficiency of the remedial means with which they are acquainted? It is difficult to conceive a life similar to that said to have been led by man in his earliest state, as either peculiarly pleasant in itself or advantageous to health. The olden poets tell us that the first races of men knew nothing of disease; this is somewhat like the assertion that before the Fall the earth was without poisonous plants, and the rose without thorns. We find another of the poets of antiquity, with much more truth, ranking it among the blessings conferred by Prometheus on primitive men, that he taught them physic—

> ——————" when prostrate with disease,
> And means were none of cure,—no quickening drink,
> No soothing balm, nothing but death before them—
> 'T was then they learned of me the art to draw
> The healing potion from the leaf and root."

Though it must be admitted that many of the usages and habits, many of the apparently inevitable and prejudicial influences of our present social state, are the results of refinement and civilization, the means of meeting and confining them within narrow bounds are developed in like and even in greater proportion.

With respect to the question whether has insanity increased under the influence of high mental culture, the authors truly observe, that to regard the culture of the mental powers at large, or of one or more among them,

as a ground of their derangement or destruction, is a somewhat hasty procedure. It is not culture, but half culture that has a pernicious influence upon the mind. The more numerous and the better the educational institutions of a country are, the less numerous are the insane. The more the whole of the mental faculties are brought into play, the more certainly will imperfections be set aside. Inaction occasions derangement more frequently than activity. How rarely do we see men of letters who labour in peace and due measure become insane! It is not even intense application of the higher faculties that overthrows the mind, but passion and the vicissitudes of life, against which elevation of soul supplies the truest remedy. Whether the relative number of insane persons is actually greater now than it was in former times, cannot be precisely ascertained. Probably the increased attention now paid to the insane, the effect of the progress of civilization, makes the number of such patients appear greater than they did at former times, when the subjects of insanity were commonly concealed in the private parts of dwelling-houses, on various pretexts; now, to conceal the family misfortune—the disgrace as it was held—and again to escape the public interference with relatives. In the present day insane persons are almost invariably placed in establishments especially destined for their reception. The more we advance in our knowledge of insanity, the greater the number of forms which it assumes do we distinguish. We must not infer from this, however, that the same diversity did not exist formerly. On the contrary, some shapes of mental aberration indicated by our predecessors seem to have disappeared altogether, others to be becoming rarer and rarer. With respect to the deaf and dumb, civilization certainly cannot be charged with having had any share in causing this abnormal condition of the senses; far otherwise, the sole alleviation for the evil that can be had, comes from her hand. The deaf and dumb were formerly a heavy burden on society. With the exception of a very few favoured by circumstances, the great majority were left to their own incapacity, to the unmitigated wretchedness of their isolation, in a state of moral and physical degradation. How different at the present time, when brought up and educated in public institutions devoted to the purpose, instructed in reading and writing, their understanding is enlightened, means for communicating with the world around them are supplied, and a substitute is found them for their mute and unavailing organs of hearing and of speech! The same may be said of all the establishments for the blind, the deformed, the halt and the lame.

It would be easy to prove that the improved civilization of the present day is distinguished not only by seeking to remedy corporeal and mental evils by every means at command, but also by its unceasing efforts to destroy the very germs of disease. Commencing with infancy, we see the present time distinguished by an increasing attention to the physical wants of that state, and a diminution of its mortality. The solicitude commences even before children see the light, and is active the moment they do so: the relations between nature and art in the process of parturition are now better understood than formerly; well-timed interference is constantly saving the threatened life of both mother and child—the necessity of proper nursing is now much better understood. Much also has been done to guard against the temptation to commit child murder. In the educa-

tion of children, regard is now had not merely, as formerly, to the mental qualities, but to the bodily powers also; and when predisposition to disease exists, judicious means are employed to repress its growth, and eradicate its seeds.

Great improvements have been made in the dress of the community, though something still remains to be done with respect to the female portion of it—all those articles that formerly interfered with the free play of the organs are falling every day into greater and greater discredit. Cleanliness is now much more attended to than formerly—the important influence of the skin on the health of the entire system is now felt and appreciated as it deserves. The necessity of free ventilation and wholesome air is duly acknowledged, and every means are now adopted to secure these advantages by wide streets, sufficient sewerage, and the discontinuance of sepulture amid the dwellings of man. The facilities for procuring wholesome food are now much increased through the progress of agriculture. The cultivation of the potato, of fresh vegetables, and of various kinds of useful fruit, has an undoubted influence on the health of communities. We fully concur with Dr. Willis in deprecating the barbarism of regarding sugar as a luxury, and making it a source of revenue; it being one of the prime necessaries of life, it ought to be as free as air; the first act of the stomach upon the amylaceous principle, which consitutes about four-fifths of our ordinary food, is to turn it into sugar—a fact from which the value of sugar, as an article of nourishment, may be inferred. Adulterations of articles of food are now much rarer than formerly. Great improvements have been made in the fabrication of kitchen utensils. The sale of poisonous articles is more restricted than it was, and is in far better hands. Toxicology is better understood. Another important feature in modern civilization is the care that is taken of the poor and helpless. The experiment of home colonization seems to promise permanent improvement and advantage to the human family. The improved construction and police of prisons is another important point. These are now not merely places of detention and punishment, but schools of improvement also. In the military service, harshness and severity are every day yielding to humane and reasonable treatment. Attention to the wants and comforts of the soldier have now gone far in rendering him, on home service, the healthiest man in the community. The same may be said with respect to the naval service. The scientific study of the diseases of artisans and labourers in detecting the hidden sources of their sufferings, has, at the same time, exposed the means of removing them, or rendering them nugatory. The physician and philosopher working hand in hand here, good fruits have certainly not been wanting. The care taken of the sick poor in public hospitals also contributes very much to repress mortality. Contagious diseases have of late years lost much of their virulence, first, from the care with which precaution and prevention are enforced, and then from the care bestowed in exposing and airing, in washing, in heating, and, if necessary, in burning suspicious bales and articles in which infection may be supposed to lurk. These measures, it is probable, have rendered zymotic influences inoperative now, that in former ages proved pestilential. These measures also may have caused such diseases as plague and yellow fever, which were contagious in former times, to be contagious no longer.

The discovery of chlorine has placed a powerful weapon in our hands against contamination. The mode of treatment now adopted in the treatment of eruptive diseases, more especially small-pox, has contributed much to diminish their fatality. The dread of cool air is happily overcome; the nursery and sick-room are kept well ventilated. The larger and more commodious houses of modern times, in addition to the better clothing and food of the community, prevent the spread, as well as the production of diseases. With respect to the circumstance of residing in town and country, it must be allowed that a life passed in the open air conduces to health and strength of body; but when to this is added excessive toil, much of the beneficial influence of a country residence is lost. It is therefore indubitable, that the simple natural state, as it has been called, is less favourable to longevity than the civilized condition.

It is worthy of remark, that in England, where unquestionably the greatest amount of material comfort prevails among the community at large, the greatest mean duration of human life, namely, 38 years, also occurs; in Russia it is but 21 years; the comfortable man not only lives better, he lives longer. The great improvements made in diagnosing and treating diseases since the commencement of the present century, has contributed a considerable share to their diminution and removal. Percussion and auscultation have done wonders in enabling us to detect with precision and to treat with success the various diseases of the thoracic viscera. The old mode of treating syphilitic diseases was often as fatal in its effects as those maladies themselves. Deformities and imperfections, formerly the prey of ignorant empirics, have been made the subject of study by educated men, and are now removed and remedied by appropriate operations. It surely cannot be said that this or that particular disease has increased in frequency, when it is acknowledged that a much larger proportion of mankind, by attaining to old age, are made obnoxious to its attacks. Where there are few or no subjects for apoplexy to attack, there are few or no apoplectic attacks. Civilization can only guard against and abate circumstances that induce disease: it has no power to bestow physical immortality. Precisely in the ratio of the greater mass of life and living energy that presents itself in the civilized world, is the glory of the victory that is won over the multiplied and infinitely various causes which threaten derangement and destruction. References to historical and statistical accounts of almost all diseases satisfy us of the truth of this position. The authors here adduce examples of particular diseases, as phthisis, scrofula, rickets, syphilis, various neuroses, and the phlegmasiæ, in order to prove their statement, namely, that the progress of civilization has materially contributed to the decrease of diseases; in doing which they have succeeded in a manner calculated to produce conviction in every rational mind.

We must, however, discontinue our analysis here, referring the reader to the volume itself. We again repeat that Dr. Willis has done good service to the community by the publication of this truly interesting volume, the value of which has been considerably enhanced by the excellent notes which he has annexed.

Chemistry, as exemplifying the Wisdom and Beneficence of God. By *G. Fownes*, Ph. D., &c. London, 1844.

We are informed in the preface to this work, that in the year 1838, Mrs. Hannah Acton, widow of the late Samuel Acton, Esq., from motives of respect for the memory of her late husband, and in order to carry into effect his desire and intention, caused an investment to be made of the sum of one thousand pounds in the three per cent. Consol. Bank Annuities, in the names of the Trustees of the Royal Institution of Great Britain, the intent of which was to be devoted to the formation of a fund, out of which the sum of one hundred guineas was to be paid septennially as a prize to the person who should have been the author of the best essay illustrative of the wisdom and beneficence of the Almighty in such department of science as the committee of managers should have selected. The subject chosen for the prize of the first period of seven years was "Chemistry, as exemplifying the Wisdom and Beneficence of God." The author of the present work obtained this prize, and has now published the Essay in its present form. The object of the Essay is analogous to that of the Bridgewater Treatises, *scil.* to investigate the relations which connect man with his Creator in the noble exercise of human reason. The Being who bestowed on man this faculty, must have intended that he should acquire, through its means, some insight into the order and arrangement of creation, and some knowledge of the divine attributes. Nothing can contribute to impart this knowledge more effectually than investigating the studied arrangements, the preconcerted adaptations, the multiplied evidences of intention, the signal proofs of beneficent design which pervade the entire series of terrestrial beings.

In discussing his subject, the author has adopted the following order:—

The Chemical History of the Earth, and the Atmosphere.
The Peculiarities which characterize Organic Substances generally.
The Composition and Sustenance of Plants.
The Relations existing between Plants and Animals.

In the division of the undecompounded substances, otherwise called "simple" or "elementary substances," being the fifty-five distinct forms or modifications of matter brought to light by the researches of modern chemistry, the author adopts the arrangement into metallic and non-metallic substances. At the head of the latter class stand oxygen, chlorine, iodine, sulphur, carbon, hydrogen, &c.—substances of the very highest importance in the great scheme of Nature, from the universality of their occurrence, and their intimate connexion with all the phenomena of organic life. This division, however, he acknowledges to be more convenient in practice than correct in principle, as a regular gradation from the one class to the other can be easily traced. Of these fifty-five elements, some eight or ten will form the whole list of substances concerned in the formation of the great bulk and mass of all those objects we see around us. The atmosphere is made up of two—viz. oxygen and nitrogen, with mere traces of two others, carbon and hydrogen. Two of these again, oxygen and hydrogen, by their chemical union, give rise to water, occupying in the shape of ocean of unknown depth, lakes and rivers, nearly three-fourths of the surface of

our planet; the solid earth is chiefly made up of the oxides of one non-metallic body, silicon, and two metals, aluminum and calcium. To these may be added potassium, whose oxide is a constituent of felspar, the characteristic ingredient of granite; sodium, of which the water of the ocean is the great depository; and iron, whose oxide is to be found everywhere to a greater or less extent. These substances really include all the known components of the earth. Other substances, such as magnesium in a state of oxide; sulphur in a state of gypsum, and in union with certain metals, are found here and there, in local deposits of considerable extent, while the remainder are still more limited in their distribution. In the organic world, the same or still greater simplicity is observed; carbon, hydrogen, oxygen, and nitrogen, a little phosphorus and sulphur, and sometimes a small proportion of two or three alkaline and earthy salts, are the sole materials which have been employed in the construction of those countless multitudes of *orders* of living objects which people the earth, and clothe it with beauty. This apparent paucity of original materials is, however, more than compensated by the very peculiar properties of some of those selected. Carbon, hydrogen, oxygen, and nitrogen, are distinguished above all other bodies by the innumerable compounds they are capable of forming, by union among themselves. Modern organic chemistry, vast as it already is, consists of little more than the study of these four elements and their combinations. Geology is happily brought into requisition on the occasion, in pointing out the advantages which mankind derive from the particular mode of structure, or arrangement, of the beds and masses of rock which form the solid earth. The evident design and contrivance exhibited in the disposition of our mineral treasures must convince the mind of forethought and provision for man's necessities and comfort. We see in the English coal-field excellent iron-ore lying interstratified with the fuel necessary to reduce it; we observe the lime-stone, used as a flux, and even the very grit and fire-clay to build the furnace, are all to be found in one and the same series. This curious relation of the ore and the fuel enables us to obtain at a cheap rate this noblest of all the metals, which is applied to innumerable purposes of daily life and convenience. Again; the author points to the mountains of Sweden and Norway, which contain inexhaustible beds of magnetic iron-ore, which, when reduced by charcoal, yields the finest and purest bar-iron for making steel. Now wood-charcoal being the only fuel at all fit for employment on this occasion, forests of pines have been accordingly planted by the provident hand of Nature in these desolate regions, by means of which the iron-maker is enabled to pursue his labours. As another instance of prospective contrivance, the author points to the material constituting the great mountain chains which ridge and furrow the earth's surface, and upon whose flanks and lower slopes rest the different stratified aqueous deposits of conglomerate, and slate, and sand-stone and calcareous matter, great part of which have been directly derived from the mechanical degradation of the central mountain nucleus itself—this material is granite, which has been, as it were, deliberately chosen from a previous knowledge of its peculiar chemical fitness for the office in question. It is obvious that to animal existence a supply of food is indispensable, which must be derived either directly or indirectly from the vegetable kingdom; animal life therefore

presupposes vegetation. Now besides the organic constituents, as carbon, hydrogen, oxygen, and nitrogen, which plants derive from the atmosphere, they are also known to contain, in every case, and without a single exception, other substances equally indispensable to vegetable life; these substances are the alkalis, potash and soda, phosphoric and sulphuric acids, lime and magnesia, silica, &c.; these form the contingent of the food really furnished by the soil in which the plant grows, and are just as necessary to its well-being as the carbonic acid, or the water it gets from the air. The most indispensable of these principles to land-vegetation is potash; another, perhaps equally important substance, is phosphoric acid, a body as universally diffused in the vegetable kingdom as potash itself. The reason of this provision will at once appear, if we recollect the important function fulfilled by one of the earthy phosphates in the animal economy, viz. the phosphate of lime, which gives strength to the bony frame-work of the animal body. Now the source of this phosphorus, there is every reason to think, is to be found in the ancient massive granite already spoken of as forming the basis of our present system of continents, and there cannot be a doubt that the origin of potash is from the same source; so that it cannot be said, that it is by blind chance that granite occupies so important a place in the frame-work of the earth.

The author next directs attention to the chemical study of the atmosphere. This is known to consist of four distinct elementary substances, oxygen, hydrogen, nitrogen, and carbon, *mixed* in certain proportions, which have been found to be invariable for air obtained from every region of the earth. Now to what is this extraordinary uniformity of mixture throughout the whole extent of the atmosphere, its constituents being merely mixed, to be attributed? The several constituents differ in specific gravity; and hence one would suppose that they would arrange themselves in the order of their densities. The answer involves the principle of gaseous diffusion. The advantages resulting from this principle are incalculable. There are processes constantly going on around us in which gaseous matter and vapours, prejudicial in the highest degree to animal life, are unceasingly evolved; the function of respiration, the burning of wood and coal for fuel, are attended with the conversion of the free oxygen of the air into carbonic acid. By the putrefactive decomposition of animal and vegetable substances, poisonous principles, far worse than carbonic acid, are given off into the air. If the heavy carbonic acid, so copiously generated from the crowding together of multitudes of men into towns and cities, were simply to obey the natural law of gravitation, and spread itself out upon the surface in such localities, a state of things would arise absolutely unendurable: instantaneous death would be the inevitable result to the unfortunate beings who should be placed beneath such a stratum of carbonic acid. Such a state of things, however, it may be said, and truly said, is impossible. Carbonic acid is freely soluble in water—the water of the sea would dissolve this gaseous stratum, and so effect its total disappearance, so that man would have no reason to dread asphyxia by carbonic acid. Still, such a mode of removing the carbonic acid from the atmosphere would be fatal to vegetable life, as it is well known that plants depend, in a very great measure, upon the carbonic acid of the atmosphere for their sustenance, which acid they decompose in order to obtain carbon.

The advantages resulting from this law of gaseous diffusion is equally obvious with respect to oxygen and nitrogen. If instead of being uniformly mixed, as now, whereby the chemical energies of the one become modified and, as it were, diluted by the other, these two gases were to form two immense layers of unequal thickness arranged in the order of their densities, animal existence would be entirely out of the question, an atmosphere of pure oxygen being just as fatal to life as one destitute of that element. The equable diffusion of the aqueous vapour contained in the atmosphere is no less important. In many warm countries, during a great part of the year, rain seldom or never falls, and it is only from the copious dews deposited in the night that vegetables derive the supply of moisture required for their growth, and to sustain them, by the cooling effects of evaporation, from the scorching rays of the noon-day sun.

Our author next comes to the *Chemistry of Organization*, and endeavours to establish the proposition that "the selection out of the whole number of elementary substances of the four organic elements—carbon, hydrogen, oxygen, and nitrogen—for the purposes of organization, was expressly made from a full previous knowledge of the very extraordinary chemical properties possessed by these substances, by which they alone are fitted for the objects intended." Design, therefore, is proved. There is, we must observe, in this part of our author's essay, a something wanted to show *why* these four elementary substances are the fittest materials for the construction of organized beings. Does he mean that they are so by reason of the instability and want of permanency of the combinations into which they enter in the formation of organized beings, an instability necessary for the purpose of allowing the various changes which take place in such beings?

Our author next considers the subject of *Vegetable Chemistry*. He divides the proximate vegetable principles into two classes—viz. those containing nitrogen, and those destitute of that element. The principal groups of substances contained in the latter are the following:—1. Saccharine and amylaceous bodies. 2. Vegetable acids. 3. Fatty and resinous principles. The sweet principles of plants are somewhat numerous. The chief modifications of them are the sugar of the cane, and the sugar of grapes—the sugar of the cane is prepared from the juice of the sugar cane in most of the warmer regions of the earth. Its most refined form is loaf-sugar or white candy—the most obvious properties of this substance are its free solubility in water, pure sweet taste. Grape sugar, the ordinary sweet principle of ripe fruits, is readily distinguished from the other kinds; it crystallizes from its watery solution slowly and with difficulty—is much less soluble than cane sugar, and very inferior in sweetness—is a much more stable and permanent substance than the cane-sugar, and probably has a simpler chemical constitution.

Starch or Fecula is a body of great interest, from its universal occurrence in the vegetable kingdom, and the important objects it there fulfils. When starch is put into cold water and gently heated, its granules break, and the whole becomes a gelatinous mass, freely miscible with water. This change is accounted for thus: the grains of the starch consist of a

soluble matter enveloped in a fine membrane, which is rent at a high temperature, and the internal substance attacked; the internal substance thus dissolved is called "amidine." When thick gelatinous starch is boiled for a few minutes with any dilute acid, it changes to a fluid limpid as water, and, by removing the acid and evaporating to dryness, a gummy substance is obtained to which the name of "dextrine" has been given. By continuing the boiling for several hours, and then separating the acid and boiling down the clear solution to a small bulk, we get a syrupy liquid, very sweet to the taste, which, on standing for a few days, entirely solidifies into a mass of grape sugar, exceeding in weight the starch from which it was produced. In these transformations the acid is not acted on—the whole affair lies between the amidine and the elements of water, grape-sugar containing more oxygen and hydrogen, compared with the quantity of carbon, than starch. The same effect will be produced by using a solution of a little common malt instead of the dilute acid. The conversion of the starch into sugar is supposed in this case to be due to the presence of a substance in the malt, called "diastase," imagined to exist in all seeds under similar circumstances—it seems to belong to the class of vegetable albuminous principles. What has been now stated will suffice to render intelligible the beautiful order of arrangements by which plants are furnished with a sudden and copious supply of already assimilated food at certain particular periods of their life, when the drain upon the natural powers is excessive, or when the plant, from its feeble and undeveloped state, is unable to obtain and digest food from without. It is well known that a very large proportion of vegetables, in the temperate zones, at the close of every Summer, either perish completely, or die down to the roots, which remain in the ground till the following Spring. This is sometimes attributed to the influence of cold. A more efficient cause is, however, to be found in the plant itself, whose death is the result of the exhausting nature of the process by which provision is made for another generation of similar beings. The period of inflorescence and seed-bearing are attended with a large expenditure of costly material. In the formation of the fruit and seeds soluble gummy and saccharine matters are conveyed to those points and there fixed, to the manifest detriment of the whole system, which suffers by the withdrawal of these substances. Now, in order to guard against the evil consequences of a necessary function, Nature usually employs the time previous to flowering, when the vegetative power is most active, in storing up, in different parts of the plant, a quantity of starch, ready for use, when the pressing occasion arrives, at which time it is re-dissolved, by the aid of diastase perhaps, and once more added to the general stock of nutriment to promote the maturation of the seeds. These various curious processes cannot fail to exhibit to the attentive observer glimpses of a general design of the most surpassing beauty of contrivance. These, with lignin and gum, are the principal members of the very important class of neutral, non-azotized, vegetable principles. With respect to their chemical nature, they are ternary compounds of carbon, hydrogen and oxygen, the two latter elements almost invariably existing in the proportions to form water. This is one character of the group—another is, their disinclination to form chemical compounds with other substances—they do, however, occasionally

so combine, but with very feeble energy. The vegetable acids occur, often in large quantities, throughout the whole vegetable kingdom—they seldom occur in a free state—their most usual condition is in that of a salt of an alkali, or earth, or sometimes an organic alkaline principle; a salt of potash, with excess of acid, is very common. With respect to chemical composition, the vegetable acids usually exhibit a larger comparative quantity of oxygen than the other proximate principles. They are destitute of azote. Oils and fats form an important series of bodies characterized, in a chemical point of view, by a deficiency or total absence of oxygen, with which circumstance their combustible character is connected. Seeds are very often loaded with oil or soft fat, which may be extracted by simple pressure, or by heating with water. In close connexion with the (volatile) oils are the resins, which are looked on as oxidized volatile oils. The vegetable principles containing nitrogen have been subdivided into VEGETO-ALKALIS, and the ALBUMINOUS PRINCIPLES. The latter, being the more important, the author considers at some length. The change by which sugar becomes converted into spirit is brought about by the agency of some albuminous principle, the presence of azotized organic matter of this peculiar kind being absolutely a necessary condition for the occurrence of vinous fermentation. To this change all saccharine liquids are subject, provided they contain in solution azotized matter capable of putrefying, and are placed in circumstances favourable to that event. The azotized principle runs into spontaneous decay; it is slowly resolved into carbonic acid, ammonia, and other products, and the molecular disturbance then produced in the decomposing body or "ferment," is propagated to the sugar, the equilibrium of opposing attractions among the then elements of that substance is overthrown, while new and more stable compounds arise in place of that destroyed. Conversion into alcohol is not the only change which sugar is susceptible of undergoing under the influence of a ferment. It may also pass into an acid state, producing lactic acid: or it may be converted into the sweet principle of manna. The kind of change seems to depend on the particular stage of decomposition of the ferment itself. If the mysteries of vital chemistry are fated ever to be unravelled, it will be by the careful investigation of re-actions such as these. The decay of organic tissues in the bodies of plants and animals, is a process which has for its object not only the removal of useless matter, but its conversion into a form once more capable of supporting life. It may be observed that reproduction and decay follow each other's footsteps throughout the whole system of Nature, and that the conditions of life and death are mutually involved in, and dependent upon each other. The great agent in all these matters is the oxygen of the air, and the ultimate result is the transformation of the organic substance into such bodies as carbonic acid, water, carburetted hydrogen, ammonia, or nitric acid. The intermediate states passed through, which are very numerous, probably resemble those through which sugar passes. The never-ceasing activity of free oxygen is thus not only the main spring of life, but it is the cleanser, the purifier of earth and air and sea, from the defilements constantly poured upon, and into these latter, from the countless sources of poisonous contamination around us. Vapours of volatile substances, rich in hydrogen, the putrid effluvia of pestilence, become gradually destroyed by a real

process of burning, more slowly, but not less completely, than in the flame of a furnace. The water of lakes and rivers, and of the great ocean itself, owes its sweetness to the same cause. In the remaining part of this chapter the author enters somewhat in detail into the establishment of the proposition that adult plants live upon the air; that they get their carbon from its carbonic acid, their hydrogen from its moisture, and their nitrogen from the little ammoniacal vapour which there exists. Thus plants feed upon inorganic substances. The various processes of the nutrition of plants give incontestible proofs of design and adaptation of the most general and comprehensive character.

He next takes up the subject of Animal Chemistry, as affording further proofs of the same *Design*. But as we find our author gives here little else than Liebig's theories, and as a complete analysis of these has already appeared in the pages of this Journal, and a somewhat summary refutation of some of them may be found in the last number of our Journal, more especially of the combustion-theory, we shall close our analysis of this truly interesting little work, from the perusal of which we have derived both pleasure and instruction.

GRAEFENBERG: OR, A TRUE REPORT OF THE WATER-CURE, WITH AN ACCOUNT OF ITS ANTIQUITY. By *Robert Hay Graham*, M.D. Octavo, pp. 232. Longman & Co. 1844.

TRUTH, we are told, lies in a well; but from the wells of Graefenberg some "mighty big lies," as O'Connell would say, have been dragged up, and scattered over the world! At length, however, we have an approach to truth—or, at least, to candour; for it is clear that Dr. Graham does not consider Priessnitz a god—nor the Water-cure infallible. On the contrary, he has often shown up the ignorance of the Graefenberg Apollo, and the murderous effects of hydropathy, when unskilfully administered. Still, our author has a monstrous deal more confidence in the "water-cure" than we have—or, indeed, than he is authorized to entertain from the facts which he himself has put on record. The old excuse, however, is always at hand—that we must not confound the *uses* with the *abuses* of a remedy; and this argument is often had recourse to by Dr. Graham himself. The present publication, nevertheless, is decidedly worth all the others put together, not only as to candour, but as to knowledge and learning. We shall therefore take much more notice of it than we have thought it necessary to do of the swarm of hydropathic pamphlets and advertisements that preceded.

Dr. Graham arrived at Graefenberg on the 18th October, 1842, and was immediately introduced to the presiding divinity of the place, whose portrait has been frequently drawn, and need not now be repainted. After being billeted in one of the huts, the Doctor was visited by Priessnitz—ordered to strip—and enveloped in a wet sheet, without being asked a single question! Dr. G. was surprised to find that two-thirds of the

disciples of Priessnitz were young men, the majority of whom were labouring under secondary syphilis! The remainder were chiefly dyspeptics and hypochondriacs.

"Consultations generally take place at table immediately after dinner, when this 'Physician of Nature' is approached with the greatest deference and reverential awe. By some he is looked up to as a demi-god, and not unfrequently so designated; by others, who have not received any relief from his treatment, he is considered as a successful impostor." 15.

Contrary to the practice of some regular physicians who prescribe the same forms of remedy for all diseases, however dissimilar, Priessnitz varies the "WATER-CURE" in almost every individual case, however similar may be the malady.

"He considers the skin to be the principal outlet by which the 'bad stuff,' as he terms it, constituting the disease, is to be expelled. Therefore, when the skin is harsh and dry, and the pores closed, this 'bad stuff' cannot escape. The frequent application of cold water draws it to the surface, opens the pores, and thus facilitates the object. In other words, cold water, by the stimulus of reaction, causes a determination of blood to the skin, and thus becomes a derivative: by which means it greatly increases the functions of this important organ, and solicits the escape of any critical discharge which may take place. He seems not to have any notion, at least he does not admit it, that the application of cold water to the surface ever gives rise to congestion in the large vessels. He says it is warm water which produces this effect and repels the 'bad stuff;' yet he admits the necessity of feeling warm after the application of cold." 17.

The tactics of Graefenberg are not unworthy of a remark. The regular physician and the barrister are *obliged* to undertake the management of all cases, good or bad. Not so Priessnitz. He makes his selection, rejecting about one-fifth, on an average, of the sick pilgrims—namely, those who are unlikely to be cured, or likely to die! The ADMISSION, therefore, implies a kind of promise of recovery, and inspires hope; while rejection is considered as sentence of death—and doubtless leads occasionally to that event. But Priessnitz has another string to his bow. Every failure on the mountain is ascribed to want of punctuality in obedience to the demi-god's instructions.

When boils recur without relief, it is attributed to "bad blood" as well as "bad stuff"—the one preventing the other from getting out properly. Boils come forth in about one-third of the cases, and when recovery follows, it is, of course, from the escape of the "bad stuff" by these safety-valves. He prescribes plenty of food, but no other drink than water. Not even tea is allowed. M. Priessnitz says truly, that his "water-cure" requires "a great deal of strength to enable the patient to go through it."

"How can it be otherwise when carried to the dangerous extreme it is at Graefenberg? This is tacitly implied also by the more experienced of the patients, who say that it is quite sufficient, after the first month, to do only half what Priessnitz requires; whilst, on the other hand, a relaxed observance of his orders furnishes a plausible excuse for any mishap that may occur." 24.

A lion having been erected on the side of Graefenberg hill, a wag was asked what it meant. He replied that there ought to have been a hog on one side, and a bull on the other, of the statue.

"It would then have signified, that to go through the 'water-cure' at Graefenberg requires the courage of the lion, the strength of the bull, and the stomach of the hog. In every instance of death, which was brought under my notice, I ascertained that it proceeded from congestion, and not from disease—a sufficient proof that the treatment is sometimes carried beyond the endurance of life. This I assert fearless of contradiction, and the most enthusiastic admirers of Priessnitz cannot disprove the fact, however much they may attempt to disguise it." 35.

Dr. Graham considers that the water-cure admits of great modification, as well as combination with proper medicines. The Apollo of the place frankly tells his patients that the "cure" is long—extending to three or four years. "Many of the patients leave in the second year, believing themselves better—others, who have derived no benefit, leave also, endurance being quite exhausted. In these cases the want of success is, of course, attributed to the want of patience."

The food at Graefenberg is of the worst and coarsest quality, "such as would be scarcely tolerated in our workhouses." Sour bread, cow-beef without a particle of fat, served up with salted cucumbers or sour-crout, shapeless dumplings "made of the scraps of bread which have been left at table, and soaked in the skimmings of the pot-liquor, sauce made of Dutch herrings, &c.—these are the delicacies of the Graefenberg TABLE D'HÔTE! On Sundays, however, besides a dance, the patients are treated with "baked geese, lean, hard and tough." "They looked miserable, dirty, wet and cold, half-starved in an adjacent pond, *frequently sparing the cook the trouble of killing them.*" From such coarse fare and cold water the Silesian Peasant has realized a fortune (at the age of 42) of *one hundred thousand pounds!* Let the Coopers, the Halfords, the Brodies, and the Chambers, hide their diminished heads!

There is no record kept at Graefenberg of the cures, failures, or deaths. "Col. B., who paid some attention to this matter, and watched the departures in the Autumn of 1842, assured me that the numbers cured fell vastly short of the report." Dr. Graham himself calculated that about one in twenty of the patients were cured. We shall now glance at a few cases.

Miss S. S———, aged 18, fair and most beautiful, in excellent health, and rather plump, accompanied her parents to Graefenberg "on a trip of pleasure." Having caught some of the enthusiasm of the place, she determined to make well better, and took to the water-cure gently at first! For a time, the cold bathing, the mountain air, and other auxiliaries, appeared very pleasant to the Neophyte, and she now went the whole hog. Her parents left her at Graefenberg, to get rid of the "bad stuff" in her blood, and returned to England! In the course of a month, the scene began to change. Feverish excitement set in—the glands of the neck swelled—and boils made their appearance. These symptoms were hailed as the harbingers of the crisis, and the expulsion of the "bad stuff." The sweating process was therefore put in practice. Passing over various details, we shall quote the finale, which our readers will do well to show to their patients who contemplate a pilgrimage to Graefenberg.

"Notwithstanding matters were in this state for some time, Priessnitz expressed himself confident of ultimate success, and said that all was going on most

favourably. Seven weeks previous to the fatal termination of the 'cure,' Miss S. S. was removed by her friends to the neighbouring town of Freiwaldau. In seven days after the removal, a fever supervened, accompanied with delirium, which lasted for a fortnight. For this two moist sheets were ordered, in immediate succession; the first for half an hour, replaced by a second, in which she remained a full hour. On being taken from the sheet, she was placed in the half or demi-bath, at the low temperature of 50° Fahrenheit. For the first three days after the attack of fever she was well rubbed in the bath with cold water *for two hours*; afterwards for one hour, which treatment was repeated twice in the day. *Whilst in the bath, as well as in the moist sheets, she again complained of pains in the stomach.* The evacuations from the commencement of the fever were red as blood, and continued so to be until death; and latterly, they were nothing but blood. Previously to the fever there was a boil, or 'crisis,' as it was called, on her left breast; it did not suppurate, but receded during the fever. After the fever had left, a vesicular eruption broke out all over the body, but disappeared within a couple of days. At this time large boils made their appearance, first on the soles of the feet, then on the palms of the hands, afterwards on various parts, or rather all over the body—on the arms, legs, stomach, and sacrum. Even at this period, a fortnight before death, Priessnitz pronounced these boils to be a salutary 'crisis,' and, in spite of all the alarming symptoms, declared that in six weeks she would be perfectly well, and fit to undertake the journey to England. Having been seized with a violent shivering and cramp in her stomach whilst under friction in the half-bath, she insisted on being taken out, at which Priessnitz, when informed of it, became very angry, and the next day sent one of his own women with strict orders to prosecute this operation until she became warm.

"The moist sheet and the half-bath were persevered with twice a day until within two days of her decease. *During the last three days she vomited blood.* No other remedies were employed to relieve the patient, and none to sustain life. On the night of the second day after the discontinuance of the treatment, this hapless young lady expired in the arms of her attendant, whilst being raised in bed, the blood at the same time gushing out of her mouth and nostrils." 53.

We do not quote this melancholy case to show the fatal effects which sometimes result from the COLD-WATER cure, but to prove the total ignorance of Priessnitz, and the absurdity of believing one word that he says, or relying on one atom of his prognostic or diagnostic skill. On opening the body of this murdered lady, the viscera were all found to be sound—no enlargement of the mesenteric glands. The stomach was found to be coated with a thick brownish mass, extending into the jejunum, and the vessels throughout the alimentary canal "were in a high state of congestion."

"At a subsequent period, when my friend Captain Wolff informed Priessnitz, that it was decidedly my opinion she died from congestion, induced by the treatment, especially the moist sheet, he shrugged his shoulders, and replied, that 'something gave way in her inside, which caused death. That it was his practice to judge of the inside by the skin, but that he was restricted in his observations in her case, and therefore could not tell what was going on within-side.'" 55.

We commiserate the feelings of the wretched parents, who—

"Left in that fatal lair the tender fawn,"

to die among strangers in a foreign land, consigned to an early tomb by the murderous hand of an ignorant butcher, who "mimicked the tone of

her voice, and her retiring modesty, when he once attempted to remove her bathing dress."

"He afterwards ridiculed the English ladies for using bathing dresses at all, so different from the custom of his own countrywomen. And all this was said and done with a sort of acting or imitating their manners, highly amusing to his hearers, who burst out into repeated shouts of laughter. Such is the great, the immortal Priessnitz! *Proh pudor!*" 55.

Such is the school to which our fair countrywomen resort to foster their morals and recover their health!

Case the second.—The Princess L——, affected with fluor albus, which Priessnitz pronounced to be cancer of the womb!! After going through the processes of the water-cure, the Princess recovered perfectly from CANCER UTERI! She afterwards became pregnant, and, at the period of her accouchement, "the hip-bath was prescribed to arrest the false pains and accelerate the labour." In the course of two hours, labour-pains came on, and she was safely delivered. The hip-bath was ordered the following day "to draw down the bad stuff," and strengthen the parts. The wet bandage was also applied to the abdomen. Whilst in the hip-bath, the Princess complained of pains in the region of the uterus, and re-action did not take place. The third day, the hip-bath repeated for a longer period. The pain became more violent, inflammation more intense, the lacteal secretion was suppressed, and, in 24 hours she was a corpse. The Prince left Graefenberg, bewailing his loss, and openly accusing Priessnitz of destroying the life of his consort. Apollo excused himself by alleging that his orders could not have been strictly obeyed!

Case 3.—A gentleman of fortune was attacked with diarrhœa, while at Graefenberg. To promote the descent of the "bad stuff," he was ordered the hip-bath, and to repeat it every two hours. Evacuations of blood succeeded, which were pronounced to be favourable symptoms. In about a week he died!

Case 4.—A Prussian Captain had been afflicted with asthma for several years. He took the wet sheet, in which he perspired, and on going into the cold bath, immediately died!

Case 5.—M. Dzubo, a Captain in the Austrian service, had been some months under treatment, when the crisis appeared in the form of a tumour in the throat. It burst internally and he instantly expired. There is no surgery employed in Graefenberg. Nature and cold water are to do all. The lancet would probably have saved the Captain's life.

"Two-thirds of his patients are said to be syphilitic. Of these, almost every one has been over-dosed with mercury, and the majority of them suffer solely from that form of the disease, which, when the virus is destroyed, may be called mercurio-syphilitic, being the effects of mercury. Under the 'water-treatment,' as practised at Graefenberg, it requires from six months to two or three years to cure these secondary symptoms. No doubt the progress of the cure is retarded by the quality of the food, and the too long and too frequent application of cold." 59.

Case 6.—Capt. Wolff, a great friend of Dr. Graham's, and under the water-cure with him, went to Graefenberg for the treatment of an affection of the head, consisting of heat at the vertex—cephalalgia—muscæ volitantes, dimness of vision, constipation, inflamed face and nose, &c. under which he had laboured for several years. He had been at Graefenberg nine months, and left at the same time as Dr. Graham did. "He went through the entire course, with occasional variations." He was an enthusiastic admirer of Priessnitz, and had unbounded confidence in the water-cure.

"One day, entering my apartment radiant with joy, he announced that the 'bad stuff' was at last 'drawn down,' for that he had evacuated a large quantity of slime mixed with cheese-like matter. I could not even then convince him, that this was the effect of the cold hip-bath repelling the blood towards the intestines, and thus causing congestion, and increasing the malady." 67.

The Captain pursued the directions given him, rising at three o'clock in Winter mornings, to be enveloped in the wet sheet, and taking the cold plunging-bath immediately afterwards!!

"Since my return to England I have received a letter containing the following remarks:—

'. . . . . What further effects has the 'water-cure' produced on your constitution? As for me, alas, it has not yet obtained the wished for success. I am almost always in the same condition, suffering still from dyspepsia, the 'mouches volantes,' and everything else, the same as before. You were indeed a true, but to me, ill-omened prophet!" 67.

We shall now take a glance at Dr. Graham's own history.

Case 7.—Dr. G. aged 52, arrived at Graefenberg, as was before stated, on the 18th of October, 1842. He had been subject to gout, at intervals, for ten years previously—the fits influenced by moral as well as physical causes. There was a dash of rheumatism in the gouty diathesis. Although he had a good appetite, and was inclined to corpulence, he felt weak, with somewhat dry and harsh skin, cramps and bad nights. The pulse was contracted, varying from 70 to 80, with palpitation, dyspnœa, perspiration and exhaustion on taking exercise. The weather, at Graefenberg, was then keen and frosty, the mountains covered with snow.

"At five in the morning I was enveloped in the moist sheet. The sensation of cold was at first so intense, that it seemed as if I was packed in ice and snow. A quivering of the muscles and chattering of the teeth came on, similar to that which is experienced in a fit of the ague. In two or three minutes, this sensation passed away, the heat of the body having gradually created a sort of vapour-bath, when I was somewhat reconciled to my new situation. My pulse was rapidly brought down to 60, and did not afterwards rise above 66. In three quarters of an hour, the bath-attendant, Frantz, came and found me in a slight perspiration, when I got up and was washed for two or three minutes in the half-bath, the extreme chill of the water having been taken off so as to bring it to about 50° or 55° Fahrenheit. At eleven I was rubbed down with the wet sheet, which was succeeded by a foot-bath for ten or fifteen minutes, of extremely cold water, about two inches in depth. The effect of the cold on the soles of the feet was such that I could scarcely endure it, and the feet became of a bright

crimson hue. At five in the afternoon the treatment was repeated, the moist sheet for an hour, and then the half-bath.

"Next day, the hip-bath was substituted for the foot-bath. This was also intensely cold, causing a stinging, tingling sensation, as if the points of innumerable fine needles were everywhere penetrating the skin, as it came into contact with the water. The same bright crimson colour appeared as before. This sensation, together with the look of the skin, were deemed highly propitious. Such was the course of treatment I underwent, without much deviation, during the first week. I could not become reconciled to the moist sheet; it frequently brought down my pulse to 50; hence, I sometimes shirked it in the afternoon, and used instead the hip-bath, and friction with the dripping sheet. I had a great inclination for a sweat in the blanket." 70.

We cannot pursue the details of the treatment which our author underwent, till one day (Nov. 4) he stumbled over the edge of the plunging-bath, and received a contusion in the left thigh, from which he went through the miseries of the damned, till a severe attack of gout came on.

"On the following day, Sunday, November 27, the gout fully declared itself. The wet bandage had caused a vesicular eruption and inflammation of the skin, and, without doubt, brought on the disease, which now proceeded rapidly, and with excruciating pain. I felt as if my bones were being crushed and ground between two mill-stones. I did not, however, as on former occasions, experience that burning heat in the articulation of the great toe, as though a drop of molten lead were boiling and hissing in the joint, or as if it were being rended and riven asunder with wedges of red-hot iron. The burning heat was located in, or drawn to the skin. The left knee was also attacked, and became enlarged, very painful, and not admitting of the slightest motion. I also suffered much pain in the loins, especially about the left kidney. In this state, too intently occupied with my sufferings, sleep was banished from my eyes. My kind friend proposed to sit up with me, which I could not permit. The night was, therefore, passed in solitude, and its stillness only broken by my half-suppressed sighs and groans." 75.

We will not fatigue the reader with the plans adopted by Priessnitz to cure Dr. G. of the gout—or of the religious obedience which the learned Doctor paid to the dictates of the ignorant Charlatan. In the course of the cure we find the following note.

"I was now sadly reduced by the disease, by the severity of the treatment, and by my great abstinence,—my food consisting merely of a small quantity of bread and milk, and, at dinner, a sort of hasty pudding. The frequent application of the moist sheet, during the first attack, had reduced my pulse, whilst I was in it, generally to 53, sometimes to 48. I had a short, dry, hard cough; sneezing, and a constant singing in my ears, resembling the chirping of birds, which last effect I have not even yet entirely got rid of. Under these circumstances, and as the moist sheet was not imperative, I resolved to abstain from its further use. In vain my friend, Capt. Wolff, urged me to continue it; my reply was, that if I did, he would have to lay me by the side of poor Miss S. S.; therefore, instead of the moist sheet, I was enveloped every day, from six to seven or eight hours, in the blanket, and then rubbed for half an hour in the bath, at 55° or 60° Fahrenheit." 78.

Scarcely convalescing from a third attack of gout, our worthy Doctor determined to make his escape from Graefenberg, though in the very depth of winter. Bandaged in wet clothes he reached Breslau, and at last Dres-

den, where he had left his son at school. The following passage speaks for itself.

"Worn out with sickness and fatigue, I returned to the hotel which I had put up at previously to my journey to Graefenberg. As the bandages had not been renewed since I left Breslau, they had become perfectly dry, and my legs were thickly covered with a silvery scurf. Having bathed them, and replaced the bandages, I sent for my son, a boy eleven years old, whom I had placed here at school. On entering the room, and approaching toward me, he all at once stopped short, gazed in mute astonishment, and hesitated whether to advance or not; and, even after I had embraced him, his steadfast look was riveted upon me, until at last he burst into tears. Affected at this conduct of the child, my first impression was that he was unhappy at school, which drew from me the exclamation, that if such were the case he should return with me to England. 'Why papa,' he at length sobbed out, 'you look so thin that I did not know you—I could not believe it was you.' I relate this circumstance merely to show how altered I must have been in that short space of time, for my son not to have recognised me. He was not singular, however, in this respect, for it was the case with every one, even the domestics at the hotel. The change having taken place gradually, I was familiarized with it, and quite unconscious of the extent to which it had gone." 81.

The Doctor reached his native home; but had not been there more than a few days, "when gout came on in both his feet and knees." "Thus I had four or rather five distinct attacks of gout in little more than three months, in spite of Priessnitz's prediction that, after the second fit, *I should never have it again.*"

The greater part of the volume before us is occupied with reflections on the nature and treatment of gout—most of them sensible and judicious—and with researches on the "WATER-CURE," as set forth in the writings of Drs. Hahn, Floyer, Baynard, Ellison, Vander Heyden, J. King, Rush, Kinglake, Smith, Todaro, &c. &c. which will be read with some curiosity by the public at large, as well as by the professsion; but we have confined our analysis to the "Personal Narrative" of our author, as more likely to prove beneficial to the reader than speculations or researches. If this narrative were converted into a homily, and read in the churches of the United Kingdom every Sunday, a *few* might be deterred by their *fears* from making a pilgrimage to Silesia; but when we see grave, learned, and even experienced physicians and surgeons discharge from their brains every particle of the reason which God gave them, and the knowledge which they had acquired from books and bedside, to run to Graefenberg and risk their lives under the experiments of an ignorant peasant, how can we wonder at non-professional individuals swallowing the miracles said to be performed on the Silesian Mountain, and running thither in quest of impossible cures, or for the treatment of maladies that could be more safely cured at home? Every medical man who thus makes an ass of himself, materially injures his profession, and tends, as far as he can, to bring it into contempt with the public! We may pity and despise the tom-fooleries of a Burdett, who patronised successively the quackeries of a Morison, a Long, and a Priessnitz, dying at last in the wet harness of Graefenberg;—but we cannot help entertaining some other feelings towards those of our own profession, who deeply injure medical science by prostrating themselves at the shrine of ignorance, impudence, or imposture, in

the forms of Hydropathy, Homœopathy, and Mesmerism. We hope the sufferings of Dr. Graham will prove a salutary lesson, not only to himself, but to others, both in and out of the profession. We certainly think that he has had a narrow escape from the fate of the young English lady who perished in a foreign land, under the Water-Dæmon of Graefenberg!

On the Chemical and Physiological Balance of Organic Nature. By *M. J. Dumas* and *M. J. B. Boussingault*, Members of the Institute of France. London, 1844.

This Essay, the joint production of Messrs. Dumas and Boussingault, comprises a brief exposition of the grand features in the life of plants and animals considered in a chemical point of view. It presents a variety of new views, calculated to supply general physiology, medicine, and agriculture, with grounds upon which the study of the chemical phenomena that take place in organized beings may be advantageously pursued. Vegetables, animals, man, contain matter in their composition. Whence comes it? What part does it play in their tissues, and in the fluids that bathe them? What becomes of it when death breaks the chain by which its various parts and forms were so closely conjoined? Such are the important and truly interesting questions, which our authors have undertaken to solve in this essay. It cannot fail to excite amazement, when we find that of all the elements of modern chemistry, organic nature has made use of but three or four; that of those vegetable and animal substances, which are now multiplied almost to infinity, general physiology requires no more than some ten or twelve species; and that all the phenomena of life, so complex in appearance, may be referred in their essence to a single general formula, so simple, that in a few words every thing seems stated, every thing having been recalled to mind, everything foreseen. Numerous results have satisfied the authors that an animal, in a chemical point of view, constitutes a true apparatus of combustion, by which carbonaceous matters, burnt incessantly, are returned to the atmosphere in the shape of carbonic acid; in which hydrogen, burnt incessantly, is returned as water; whence, in fine, free azote is ceaselessly exhaled in the breath, and, in the state of oxide of ammonium, is thrown off in the urine. So that, from the animal kingdom as a whole, carbonic acid, watery vapour, and azote or oxide of ammonium, are continually escaping—simple substances, and few in number, the formation of which is intimately connected with the history of the atmosphere itself. On the other hand, it has been found that vegetables, in their natural and healthy state, decompose carbonic acid incessantly, fixing the carbon, and setting free the oxygen; that they decompose water, seizing on its hydrogen, and disengaging its oxygen as before; lastly, that they either abstract azote directly from the air, or take it indirectly from oxide of ammonium, or nitric acid; thus acting, in every particular, inversely or in opposition to animals. So that, while the animal

kingdom constitutes an immense apparatus of combustion, the vegetable kingdom constitutes, in its turn, an immense apparatus of reduction, where carbonic acid decompounded leaves its carbon, water its hydrogen, and oxide of ammonium and nitric acid their ammonium or their azote. If animals incessantly produce carbonic acid, water, azote, and oxide of ammonium: vegetables consequently consume, without cease, oxide of ammonium, azote, water, and carbonic acid. What the one gives to the atmosphere, that the other takes from it; so that it may be said, that plants and animals are the OFFSPRING OF THE AIR; that they are but condensed or consolidated air. Vegetables and animals, therefore, come from the atmosphere, and return to it again; they are true dependants of the air. Vegetables assume from the atmosphere the elements which animals exhale into it; viz. carbon, hydrogen, and azote, or rather carbonic acid, water and ammonia.

The next question is, how do animals procure the elements which they give to the atmosphere? The simplicity of Nature's laws is truly admirable! Animals always derive their elements primarily from vegetables. Animals do not create any of the truly organic substances; they consume or destroy them; vegetables, on the contrary, habitually create these substances—they destroy but few, and this only for particular and determinate ends. Thus it is in the vegetable kingdom that the great laboratory of organic life is found; it is there that both vegetable and animal substances are compounded; and they are all alike formed at the cost of the atmosphere. From vegetables these substances pass ready-formed into the bodies of herbiverous animals, which destroy one portion of them, and store up another in their tissues. From herbiverous animals they pass ready-formed into the bodies of carniverous animals, which destroy or lay them up, according to their wants. Finally, during the life of these animals, or after their death, the organic substances in question return to the atmosphere, from whence they originally came, in proportion as they are destroyed. Thus is the mysterious circle of organic life on the surface of the globe completed and maintained! the air contains or engenders the oxidized substances required,—carbonic acid, water, nitric acid, and ammonia. Vegetables, true reducing apparatus, seize upon the radials of these, carbon, hydrogen, azote, ammonium; and with them, they fashion all the variety of organic or organizable matters which they supply to animals. Animals, again, true apparatuses of combustion, reproduce from them carbonic acid, water, oxide of ammonium, and nitric acid, which return to the air to reproduce the same phenomena to the end of time. An agent which acts an undoubted part in all these various phenomena, is the solar light. Without light Nature was without life and without soul: a beneficent God, in shedding light over creation, strewed the surface of the earth with organization, with sensation, and with thought.

And with respect to the sources whence oxide of ammonium and azotic acid, from which vegetables derive a portion of their food, are derived, these are produced upon the grand scale by the action of those magnificent electric sparks that dart from the storm-cloud, and, furrowing vast fields of air, engender in their course the nitrate of ammonia, which analysis discovers in the thunder-shower. As it is from the mouths of volcanos that the principal food of plants, carbonic acid, is incessantly poured out; so it

is from the atmosphere on fire with lightnings, from the bosom of the tempest, that the second and scarcely less indispensable aliment of plants, nitrate of ammonia, is showered down for their behoof.

Scarcely are carbonic acid and nitrate of ammonia formed than Light begins to act on them for new purposes. By its agency carbonic acid yields up its carbon, water its hydrogen, nitrate of ammonia its nitrogen. These elements combine, organic matters are formed, and the earth is clothed with verdure. It is, in fact, from absorbing the light and heat of the sun, that vegetables perform their functions; whilst animals, on their part, engender heat and elicit force in consuming that which vegetables have produced and slowly accumulated. Thus we see the atmosphere presents itself as including the primary materials of all organization. Volcanos and thunder-storms meet us as the laboratories in which are compounded the carbonic acid and nitrate of ammonia which life requires for its manifestation and extension. Light comes, and with the concurrence of carbonic acid and nitrate of ammonia, the vegetable world, the grand producer of organic matter, is developed. Plants also absorb the solar light which enables them to decompose carbonic acid, water, and ammonia; plants are embodiments of a reducing power of greater virtue than any other that is known, for no other will decompose carbonic acid in the cold.

Next come animals, true consumers of matters, producers of heat and force, true instruments of combustion. In them it is that organised matter acquires its highest expression. In becoming the instrument of sensation and of thought, organised matter is burnt; and in giving out the heat or electricity which constitutes our force, it is destroyed and returned to the atmosphere from which it originally had come. Thus the atmosphere is the mysterious link that connects the two kingdoms (animal and vegetable) together. Vegetables absorb caloric and store up the matter which they have been able to fashion; whilst animals, through which it may be said that organic matter merely passes, burn or consume it, to produce by its means the heat and various forces which their motions turn to profit. The author here likens the vegetable world of the present age, the true storehouse whence animal life is fed, to that other magazine of carbon which we possess in our primeval beds of coal, and which, burnt under the genius of Papin and of Watt, produces carbonic acid, water, heat, motion, we might almost add, life and intelligence. The author here runs through the composition of water, carbonic acid, ammonia, and the air. He concludes this part of the work by stating that the air is a mighty magazine whence plants, for a long time, may draw all the carbonic acid they require for their wants, and where animals, for a still longer period, will find all the oxygen they can consume. So that the atmosphere is a mixture which incessantly receives and incessantly furnishes oxygen, nitrogen, and carbonic acid, by a thousand exchanges, of the nature of which it is now easy to form a right conception.

All plants fix carbon, and all obtain it from carbonic acid, obtained directly from the air by the leaves, or from the soil by the roots, through the decomposition of organic particles and manures in the soil. This carbonic acid, derived by the roots from the soil passing into the trunk, and from thence into the leaves, is eventually exhaled without change into the atmosphere,

if no new force intervenes. And such is the case with plants vegetating in the shade, and during the night; the carbonic acid of the soil permeates their tissues and is diffused in the air. It is incorrect to say that plants produce carbonic acid during the night; plants only then transmit unchanged the carbonic acid which their roots have pumped up from the soil. The thing is different, however, when this carbonic acid is in contact with the leaves and green parts, and the light of the sun falls on these; then the carbonic acid disappears; minute bubbles of oxygen are evolved from every point of the leaves, and the carbon is fixed in the tissues of the plant. These green parts of vegetables are also possessed of another property, besides that of decomposing carbonic acid, viz. that of absorbing the chemical rays of the solar light. With respect to the part played by the carbon which has been fixed by plants, it combines with water or its elements, and thus gives origin to substances of the highest consequence in the economy of plants, as for instance, the cellular or the ligneous tissue of plants, or the starch and the dextrine, which are their derivatives. In the same manner do plants decompose water and fix its hydrogen, in order that they may form certain compounds in which this element predominates. The hydrogenous substances thus formed, are employed by plants for various subordinate purposes. Volatile oils serve to defend them from insects; the fat oils serve as materials for combustion, and produce heat at the period of germination; the wax with which the leaves and the fruit are covered, renders them impermeable to water, &c. Thus then, so long as the plant preserves its habitual character, it derives from the sun heat, light, and chemical rays, which it stores up. It receives carbon from the air, takes hydrogen from the water, nitrogen or ammonium from ammonia or nitric acid, and various salts from the soil. With these elementary or mineral substances it fashions organic substances, which accumulate in its tissues. The substances so fashioned and accumulated are either ternary compounds, lignin, starch, gum, sugar, oils or fats; or they are quaternary compounds, fibrin, albumen, caseum, gluten.

So far the vegetable is therefore a constant producer. The animal again constitutes an instrument of combustion, whence carbonic acid is incessantly disengaged, and where, consequently, carbon is incessantly consumed. At the same time that they burn carbon, animals also consume hydrogen. Animals, further, constantly exhale azote: the author insists on the impropriety of admitting an absorption of azote in the course of respiration—we never derive nitrogen from the air; the air, he will have it, is never an aliment for us; all that we do is to take from it the oxygen which is requisite with our carbon to form carbonic acid, with our hydrogen to form water. The nitrogen we exhale then, proceeds from our food, and from our food only. According to the estimate of M. Lecanu, each individual excretes, on an average, 15 grammes, or nearly 4 drams, of azote with his urine every day. The azote is here obviously derived from our food, as are the carbon and hydrogen which we burn. The nitrogen escapes in the form of ammonia—this is effected by the urinary secretion, which is a solution of ammonia restored to the earth or atmosphere. And to prevent any injury to the urinary organs from so caustic a substance as ammonia, Nature causes us to excrete urea, this urea is still a carbonate of ammonia; but this carbonate is divested of the pro-

portions of hydrogen and oxygen, which would form water; deprived of it, forms urea, an inert substance. When brought in contact with the air, however, it undergoes fermentation, which restores to it its water, and so converts it into ordinary carbonate of ammonia, an extremely volatile substance, very soluble, and ready to be precipitated in dews and rains; destined therefore to travel from the earth to the atmosphere, from the atmosphere to the earth, until seized upon by the roots of a plant, and elaborated there, it is converted anew into organic matter. Side by side with the urea Nature has placed in the urine infinitely small traces of an albuminous or mucous substance, which undergoes a change when it comes into contact with the air, and becomes a ferment which determines the conversion of the urea into common carbonate of ammonia. If we refer the carbonic acid of the urea to the general phenomenon of animal combustion, to which, indeed, it belongs of right, we shall have ammonia remaining as the characteristic product of the renal secretion. With respect to the lungs and skin then, we have carbonic acid, water and azote; to the urine, ammonia; these are the constant and necessary excretions of the animal body, and these are precisely the elements which vegetables require and turn to use, just as the plant, in its turn, restores to the air the oxygen which the animal had consumed.

We have seen then, that the carbon and hydrogen, burnt by an animal, and the azote, free or combined, which he exhales, are derived from his food. Viewing the subject of digestion in this way, we shall regard it as much more simple than is usually done. We have seen that an animal creates no organic matter; he is limited to assimilating it, or to expending it by burning. Now digestion is a simple process of absorption. Soluble substances pass into the blood, without alteration for the most part; insoluble substances make their way into the chyle, having been sufficiently comminuted to be imbibed by the lacteals. The object of digestion is to restore to the blood a material fitted to supply our respiration with the $2\frac{1}{2}$ or $3\frac{3}{4}$ drams of carbon, or an equivalent quantity of hydrogen, which each of us burns in an hour, and also to supply the 15 grains of azote per hour exhaled by the lungs, skin or kidneys.

Amylaceous matters are, therefore, changed into gum and sugar, and these substances are absorbed. Fatty matters are subdivided, formed into an emulsion, and in this way pass into the vessels, to form deposits, which the blood resumes for the purpose of combustion. The neutral azotized substances, fibrin, albumen, and caseum, dissolved at first, and then precipitated, find their way into the chyle, in a state of minute division, or dissolved anew. These animals receive and assimilate, almost unchanged, the neutral azotized substances which they find ready formed in the vegetables or other animals on which they feed; fatty substances they receive from the same sources, and also amylaceous or saccharine substances. These three grand orders of substances, always to be referred for their origin to vegetables, are divided into assimilable products—fibrin, albumen, caseum, fat, which serve for the growth or renovation of organs; and into combustible products, sugar and fats, which are burnt in respiration. Considered in this way the animal machine seems to be the medium between the vegetable world and the atmosphere; it derives all its elements from the former, throws out all its excretions, and finally is itself decomposed into the latter.

Thus then we see that the primitive atmosphere of our globe has formed itself into three great parts—one constituting the atmospheric air of the present time; a second represented by plants; a third by animals. Between these three masses continual exchanges are effected: matter descends from the air into vegetables, penetrates in this way into animals, and returns to the air, according as they apply it to their purposes. Green vegetables constitute the grand laboratory of organic chemistry. They are the agents which, with carbon, hydrogen, azote, water, and oxide of ammonium, slowly form the most complex organic substances. Under the form of heat, or of chemical rays, they receive from the sun the force which enables them to accomplish this great work. Animals absorb the organic substances which plants have formed—they decompound them and bring them back towards the state of carbonic acid, water, azote, and ammonia, in which state they are restored to the air. In burning these organic substances, animals produce caloric, which radiating into space, goes to supply that which vegetables had absorbed. Thus all that the atmosphere yields to plants, plants yield to animals, animals restore to the air. Eternal round, in which death is quickened and life appears, but in which matter merely changes its place and form! The crude mass of the air, gradually organized in vegetables, passes unchanged into animals, and becomes the instrument of sensation and thought; then, vanquished by this effort, it returns as crude matter to the source from whence it came.

We here conclude our analysis of this interesting little volume. The philosophical views contained in it, we were almost going to say, struck us by their novelty; but we soon recollected that we had seen many of these in Liebig's work. No doubt, the same dish will admit of being sent to table in different forms. We earnestly recommend the perusal of the book to our readers.

ENCHIRIDION MEDICUM, OR MANUAL OF PRACTICAL MEDICINE; THE RESULT OF FIFTY YEARS' EXPERIENCE. Translated from the German of *M. Hufeland*, by Drs. *Bruchhausen* and *Nelson*. Bailliere, London, 1844.

If every physician were sworn, on taking out his diploma, to register each case and observation, most carefully and scrupulously, and deposit the manuscript in a building for public inspection, the Archives of that Temple would be worth recording a century after its erection! The medical practitioner would there find many a beacon to warn him from falling among rocks, shoals, and quick-sands, as well as to curb his pride in thinking himself so often original in his doctrines and practices. As it is, nineteen-twentieths of our hard-earned experience sink into the grave with the perishable remains of the human machine—and all has to be learnt over again by the succeeding generation. The record of experience in books, is of a more questionable character. The idea that the statements are to

be laid bare to the public during the life of the author, must naturally have some influence on him, and prove no very powerful inducements for him to publish the "truth, the whole truth, and nothing but the truth," seeing that he had taken no oath to do so, and that his kind professional brethren would not be over-anxious to cover over his faults, and hide them from the world at large. SELF-LOVE has, no doubt, brought into the world a large brood of fair-looking urchins externally; but who are lob-sided and rickety when stripped of their feathers. TIMIDITY or modesty, on the other hand, has kept in the back-ground many a production that would have done great service to the community at large, and much honour to its parent. The venerable Hufeland has adopted the plan of bequeathing to his country, and to posterity, the results of half a century's experience—in a volume containing a vast deal of valuable matter, intermixed, however, with much that is antiquated and now obsolete. The work is curious, also, as exhibiting a fair specimen of German theory and practice for the last forty or fifty years—and from which many useful hints may be taken by the wisest and oldest among us in these islands. In this volume German minuteness is extremely well characterized. A first-rate galloping physician of this metropolis would be a little startled to have his fifteen or twenty minutes' consultation broken in upon, or rather entirely occupied in questions respecting the plethoric, phlogistic, sthenic, adynamic, weak, feeble, nervous, dry, lax, spongy, lymphatic, gastric, bilious, atrabilious, rheumatic, catarrhal, psoric, venous, hæmorrhoidal, phthisical, apoplectic CONSTITUTION of his patient! Yet all these distinctions are minutely discussed by Hufeland, before he enters on the hereditariness, sex, age, periods, temperaments, idiosyncracies, habits, &c. &c. of the sick man or woman! And, after all these are mastered, the student finds himself merely on the first step of a long flight that leads to the temple of investigation! PATHOGENESIS, or the origin of the disease, occupies large space, and is divided into numerous heads—then comes symptomatology; one item of which, the PULSE alone, would require a long life and wide experience to become acquainted with! The pulse! ye gods, what a variety has come under the TACTUS ERUDITUS of the venerable author! That phenomenon, symbol, or action which varies with every emotion of the patient's mind, and which is now, as in the days of Hippocrates, "*res fallacissima*," is traced by Hufeland through all its Proteian shapes, till he and we are lost and bewildered in the trackless path! But we must give up the attempt even to enumerate the names of the various pulses, together with countless other branches of symptomatology, though we recommend their perusal, and even study, to the young practitioner, as useful tasks in leisure hours.

We shall only be able to glance at some of the peculiarities of this volume, as characterising German practice, and differing from English. There are many most admirable and judicious moral precepts laid down in this volume. The following remark ought to be written in letters of gold, and hung up in the library of every medical practitioner in this country.

"It is revolting to hear of physicians, who know the difficulties of the art and of forming opinions regarding it, judge their colleagues with severity, harsh-

ness, contempt, or disclose their faults, and try to raise themselves by lowering others.

"Oh! that I were able to impress the minds of my brethern with the truism, as forcibly as I am penetrated by it: He who degrades a colleague, degrades himself and his art. For in the first place, the more the public becomes acquainted with the faults of physicians, the more will physicians become exposed as contemptible and suspicious, and the more will such exposure impair confidence." 14.

Hufeland does not regard *consultations* with a very favourable eye—especially when they are numerous. They have long appeared problematical to us. If patients knew their own good, they would be chary in congregating three or four doctors around their bed-side. Never was axiom more false than the hackneyed one, viz. "in the multitude of counsel," &c. There is far more folly than wisdom in the procedure! One individual generally dictates the treatment; or, if not, there is wrangling or confusion. There ought never to be more than two consultants, and he who is called in last, should generally have a carte-blanche for trying *his* plan for a few days; when, if no improvement results, the original consultant may fairly urge the treatment he had been previously pursuing, or suggest some plan different from both.

In respect to FEVER—Hufeland avers that there is only "one acute disease—fever." Every fever is of an inflammatory nature, and liable to generate real local inflammation. Every fever in the same individual, can be converted into all the different species of fever. Every fever is "indispensably accompanied with increased generation of *heat*." Hufeland ought to have known that many fevers extinguish life with the heat below par.

Hufeland does not agree with Broussais or Clutterbuck in ascribing fever to topical inflammation of brain or bowels. He believes that local inflammations are often the consequences or complications of fevers, rather than the causes of them. Although he considers all fevers as one in their nature, he divides them practically into several species. The Pathogenesis, or Etiology, he considers as the chief cause of variety in fevers. Thus, "violent fright creates a nervous fever—violent anger a bilious fever—excesses in wine, &c. an inflammatory fever—putrid substances or contagion a putrid fever." A prevailing epidemic will swallow up all distinctions, and amalgamate all forms of fever.

In Therapeutics, Hufeland has evidently been a temporizing physician—avoiding rough remedies, and acting pretty much on the "*medicine expectante*" principle. Although he considers all fevers as essentially phlogistic, he does not dream of cutting them short by heroic treatment.

"Every acute fever is a phlogistic state of the body, and consequently the remedial means called for is antiphlogistic. Therefore, in the commencement, and as long as the character of the fever is not established, the antiphlogistic treatment is the best.

"Further, we must never forget, that in every acute fever the healing principle and the vital power are one and the same thing; nay more, fever in itself is nothing else than a curative process which brings about critical alterations, termination, and a restoration from disturbance to healthy equilibrium,—yea, in many cases, Nature uses no other means than fever to cure disease. Therefore, the office of art is by no means to remove fever itself, but solely to guide its operation in such

a manner, that it attains the end of effecting a perfect crisis; art can do no more than to clear away obstacles which oppose it, to moderate the vital power when too violently excited, to raise and strengthen it when too weak; in short, to confine it within that medium degree of activity, which alone can effectuate a critical operation." 82.

Essentials in fever are mental and corporeal quiet—horizontal position—abundance of aqueous drink—absence from food. Nature herself points to these indications—and it is highly probable that these alone would conduct to as safe a termination as the most complicated system of polypharmacy! This, however, must not be told in Gath!

Our author considers acute rheumatism and bronchitis as the same inflammation, and only differing as to seat. Surely this is not correct pathology. The tissues implicated in the two inflammations are anatomically and physiologically different, and the treatment itself is very different. Hufeland's therapeutics in acute rheumatism are extremely inert, and colchicum or mercury is never alluded to! "The fundamental idea, says he, of cure, is restoration of the cutaneous action." Yet in acute rheumatism, there is generally a great deal too much perspiration. He makes one good remark not sufficiently attended to in this country, viz.—"Too large or unnecessary abstractions of blood will tend to protract rheumatism." They will do more—they will, too, induce metastasis to the heart or other organs. The same may be said of warm baths. They are dangerons both in articular and pulmonary inflammations. He makes no allusion to evaporating lotions in acute rheumatism.

The *Oriental Cholera* he conceives to arise from specific miasmata in the East, and spread by *infection* to the westward. Venesection and an emetic are the primary remedies—calomel and cold water afterwards.

Rabies Canina arises from "poisoning of the nerves." Prophylaxis alone can be depended upon. "Scarification, cupping, and cauterizing the wound by gunpowder." He mentions not excision, which is the most effectual of all means, when it can be performed.

Intermittent Fever ought not to be stopped suddenly, "since something critical must be attributed to it." Emetics, purgatives, and such like, must be tried, before cinchona can be ventured on. Arsenic is considered too dangerous a drug to be ever ventured on, even in the most obstinate quartans. This is a great error.

Pneumonia.—Hufeland appears to have little or no faith in auscultation. He merely alludes to it in this important class of complaints as an illusory means of diagnosis, by which alone the existence of pulmonary diseases can never be discovered! Here is a remarkable proof that long experience does not always secure accuracy of diagnosis or efficacy of practice. "Venesection, tartar emetic, and vesicatories are the principal remedies." "Weak tuberculous lungs and phthisical disposition strongly call for abstraction of blood." He recommends the patient to be bled from both arms, in the horizontal position, till the pulse falters or becomes intermittent. This is bold, and somewhat dangerous practice. If syncope

take place in such a posture, there may be some difficulty in restoring the circulation; whereas, if it occur in the upright posture, the patient immediately recovers by laying him horizontal.

Carditis.—This important disease occupies about three-quarters of a page. There is no allusion to metastasis—to the stethoscope—to percussion—to effusion into the pericardium—nor to any of the sounds emitted during inflammation of the heart and its membranes. Neither is there mention of calomel and opium as auxiliaries to other means! The disease is to be treated as pneumonia.

Epilepsy.—In this opprobrium medeci there is no mention of nitrate or oxide of silver. Oxide of zinc is the favourite remedy of Hufeland. Chorea is treated in the same way, and purgatives are overlooked.

We need not continue to point out farther the peculiarities of German practice. They differ from the practice and opinions of these isles, in almost every disease. The general character, however, of continental therapeutics is inefficiency as compared with ours. We are ready to admit that, in many cases, the inertness of German therapeutics, and the medicine expectante of France, are safer measures than the heroic practice of "Young England," as regards bleeding, purging, and mercury. But, in many other cases, precious time is lost which cannot afterwards be regained. Although there is a good deal of what we might term unnecessary minuteness in Hufeland's volume, the work contains a vast deal of accurate and important observations, which even the old practitioner may peruse with advantage, and the young refer to as a hand-book or inexhaustible magazine of valuable materials.

THERAPEUTIQUE APPLIQUÉE, OU TRAITEMENTS SPECIAUX DE LA PLUPART DES MALADIES CHRONIQUES. Par *P. J. C. Debreyne.* 2me. Edition, pp. 332. Baillière, 1844.

THIS is really a very useful and instructive work. It contains the results of our author's experience, over a period of nearly thirty years, in a variety of those chronic diseases which are of most frequent occurrence. Dr. *Debreyne* is evidently a shrewd and practical observer; he has learned to think and reason for himself; and seems to have had, throughout his professional life, a marked aversion for all the nosological theories which have occupied so largely the attention of most of his countrymen during the present century. See, how he treats the chiefs of philosophical (!) medicine:

"The Pinel-ists, the organicians, the anatomo-pathologists, the Broussais-ians, the statisticians, the numerists, have all, by the exclusiveness of their particular doctrines and views, stood in the way of, and materially retarded the advance of sound therapeutic knowledge. Now, however, that the system of universal irritation and of a materialist physiologism has fallen to pieces, a new era has

happily opened up to our view, and Hippocratic vitalism has re-appeared amongst us in all its primitive splendour. . . . . The reign of anatomism, that is to say, of necropsies and facts and figures, has nearly come to an end; and medical men now long for something more tangible and more applicable to the every-day duties of a professional life; in other words, they wish to have pointed out to them useful rules of treatment and rational means of cure, instead of endless catalogues of statistic tables and of post-mortem examinations."

Dr. D. is professor of practical medicine to the establishment of Grande-Trappe (Orne), and seems to have reared a number of pupils, who have contributed, for some years past, not a little to disseminate his peculiar doctrines and modes of treatment in different districts of France. He is, moreover, the author of several treatises—on Physiology, Hygiene, Moral Theology in its relations with Medicine, of which we gave a short notice in the last number of this Review. However much we may feel inclined to dissent from him on several points of practice, we have been decidedly pleased with the general tone of the present work, which appears to be a faithful record of discriminating observation of disease at the bed-side of his patients. There is nowhere any parade of learned phrases; no darkening of knowledge with a multitude of words; no wearisome and most profitless description of very common cases; no heaping together of other men's opinions and doings, with a hesitating announcement of his own. Instead of this, we have a plain unvarnished tale of what the author has seen and found in practice; and all this explained in as few words as possible. In fine, this book is thoroughly and essentially a practical one—a somewhat uncommon feature, by the by, of a French medical work in the present day. Its motto is *experire:* our readers cannot do better than accept the challenge and judge for themselves.

The diseases, which pass under review, are arranged in three divisions—Neuroses or Neuropathies; Chronic Phlegmasiæ; and Astheniæ. We begin with a short notice of

Epilepsy.—The remedy, which Dr. D. has found by far the most successful in the treatment of this disease when it is idiopathic, and there are no symptoms of existing cerebral congestion, is the extract of Belladonna. He gives it in the form of pill; beginning with about one or two grains *per diem* at first, and gradually raising the dose to four or five grains, provided no affection of the sight or any other intoxicating symptom is induced. In some cases, he conjoins with advantage the use of a decoction or infusion of Valerian. But neither this latter remedy, nor yet the oxyde of Zinc, nor the nitrate of Silver—although all of them have been found occasionally useful—can be trusted to alone. In general, the more frequent the paroxysms are, the more hopeful we may be of making an impression on the disease: it is when two or more months intervene between each attack, that this Neurosis is usually most obstinate and intractable. In such cases, the Belladonna should be administered for a week or two before the expected invasion. When this is preceded by a distinct *aura Epileptica*, a strong dose of Ammonia will sometimes serve to ward off the attack: the patient therefore will do well to carry a small phial of the volatile alkali in his pocket. In some cases, the paroxysms of Epilepsy may be arrested for several months by the use of the Belladonna;

but nevertheless they ultimately return almost as frequently as ever, in spite of the prolonged continuance of the remedy. It is under such circumstances as these that the decoction of Valerian root, or of Orange leaves, should be exhibited at the same time.

Dr. *Debreyne* does not conceal the fact that several writers have recorded their opinion that his favourite remedy has utterly failed in their practice. He mentions particularly a report by M. *Picard* of 22 cases that were treated with it by M. *Ferrus*, in the Bicetre Hospital, in 1837. He attributes its failure in these cases—in part at least—to the injudicious manner in which the extract was given; the doses being far too large, and carried to such an extent as to prove rather poisonous than sanative. This is certainly not the way to give a fair trial to the remedy.

Our author remarks that, "if in symptomatic Epilepsy, after the removal of the exciting cause, the paroxysms continue from a sort of nervous habitude, they will be best obviated by the Belladonna; and, in the event of this failing, by the use of Quinine and Valerian."

Hysteria.—The following formula is very highly lauded by Dr. D. in the treatment of this too common disorder.

℞. P. Camphoræ . . . ℥ss.
P. Assafœtidæ . . . ℥ss.
Extr. Belladonnæ . . ℈iv.
Extr. aquos. Opii . . ℈j.

Mix and divide into 120 pills; commence with two at first *per diem*, and gradually increase the dose to six in the 24 hours; they should always be taken before food. Occasionally a wine glassful of the infusion of Valerian or Orange leaves may be given with much advantage along with each dose of the pills.

Dr. D. is in the habit of administering them also for the cure of general or partial nervous Trembling, and of *Chorea*. Sometimes he exhibits, in the latter disease, the Belladonna by itself; and, he says, very generally with success. When it fails, he has recourse to cold bathing. No allusion is made to the use of Steel in the treatment of this complaint by our author; an omission that seems the more strange, as we shall afterwards find that he is so partial to ferruginous medicines in the treatment of many diseases of debility. According to our opinion, *the* remedy for Chorea is the carbonate or sesqui-oxyde of Iron, especially when administered in any bitter infusion.

Neuralgia.—"For the last fifteen years, we have been in the habit of using with the greatest success, in all the forms of neuralgia,—Sciatica excepted—the Belladonna as an external application. Our favourite formula is this:—

℞. Extr. Belladonnæ . . ℥ss.
Opii pulveriz. . . . ℈ij.
Adipis suis . . . ℥ss.
Olei thymi . . . . ♏vj. M."

A portion of this ointment, as big as a hazel-nut, is to be well rubbed upon the affected part two or three times a day, or whenever the paroxysms of pain are severe. The rubbing should be continued for eight or ten

minutes at a time, until the ointment is quite absorbed by the skin : a little saliva may be added every now and then to promote the absorption. Let it be remembered that the use of this ointment should be at once suspended, if the sight becomes very sensibly affected, or any unpleasant cephalic symptoms supervene. In very obstinate cases, Dr. D. conjoins the internal administration of the extract of Belladonna or Opium with the use of the above pommade ; but in the majority of instances, this is unnecessary, as the pain will very generally yield to the outward application. We employ it, he says, specially against facial neuralgias and other local painful affections of a nervous character, the Megrim, &c. In one very severe case of Neuralgia, which had lasted for nearly twenty years, and which had resisted our author's quasi-specific pommade, as well as a score or two of other approved remedies, the pain which was seated in the skin, over the lower left ribs, at length yielded to the application of the Vienna Caustic paste, so as to produce a pretty large eschar upon the affected part. With respect to the treatment of Sciatica—which, as we have seen, Dr. D. separates, in a therapeutic point of view, from the other forms of Neuralgia —his usual plan is first of all to order the application of several *volant* blisters along the course of the affected nerve ; and if these do not quickly succeed in relieving the pain, to have recourse to his terebinthinate mixture, which is only a modification of that recommended first by Professor *Recamier*, and subsequently by Dr. *Martinet*. The formula is this :

℞. Aquæ lactucæ . . . . . ℥ viij.
Olei volat. terebinth. . . ℥ j.
Gummi Arabic . . . . 3 v.
Syrupi simpl. . . . . ℥ iiss. M.

The dose, a large table-spoonful, in a glassful of rice-water, three times a day, upon an empty stomach. Dr. *Debreyne* recommends at the same time the external application of an embrocation—composed of Spirits of Turpentine, Ammonia, Camphorated Spirits of Wine, and melted lard,— with which the affected parts are to be vigorously rubbed night and morning. In still more intractable cases, he has recourse to the use of moxas, applied over the seat of the chief pain ; the best point generally for their application is immediately behind the great trochanter. In conclusion, he frankly admits that the use of his favourite Belladonna ointment is seldom efficacious for the relief of Sciatica.

Paraplegia and Local Palsy.—" Before we were acquainted," says Dr. *Debreyne*, " with the special action of Nux Vomica on the spinal-marrow, we were in the habit of trusting almost entirely to the use of moxas, applied over the lumbar or sacral vertebræ, for the cure of Paraplegia. But, for the last twenty years, we have invariably commenced our treatment of this disease with the alcoholic extract of the Nux Vomica, exhibited in the form of pills, each containing one grain of the extract." He begins with one, and gradually increases the dose until six—two at three different times—be taken in the course of the twenty-four hours. Whenever the patient experiences cramps and spasmodic twitches or tetaniform rigidity in the limbs, the action of the medicine must be narrowly watched ; and it will be prudent either to diminish the dose, or even to suspend its use altogether, if these symptoms become excessive. The object should be to keep up the nervous excitement in a moderate and safe degree for a con-

siderable space of time. If after a month or two's use of the Vomica, no decided benefit is obtained, Dr. D. advises the application of one or more moxas over the lumbar region.

He very properly cautions his readers not to expect the same benefit from the use of the Nux Vomica in the Hemiplegic, as in the Paraplegic, forms of Palsy. It may, indeed, prove serviceable in some cases of the latter, where there is every reason to suppose that the sanguineous coagulum within the cerebral substance has been nearly or altogether absorbed; but in no case of this description should we be sanguine of doing much good.

For the cure of *Amaurosis*, our author relies chiefly on the repeated application of small blisters in the neighbourhood of the affected eye, first on the temple and then over the eyebrow. In obstinate cases, the blistered surface should be sprinkled with a powder composed of starch and strychnine—about a fifth of a grain may be used at first, to be gradually increased. When this treatment fails, a seton should be tried. Dr. D. has used with very decided success a collyrium, containing some extract of Belladonna, in a good many cases of day blindness or *Nyctalopia*.

He also mentions a simple remedy for nervous *Deafness*, which may deserve notice. Let the patient fill his mouth with the smoke of Tobacco, or of any other dry aromatic plant—Sage, for example—and then make a forced expiration, while the mouth and nostrils are closed: this should be done several times in the course of the day. The smoke enters the Eustachian tube, and thus produces a slight stimulant effect upon the internal ear. The remedy can do no harm; and this is saying a good deal in its favour, considering the nature of many of the means of acoustic medication. It is best suited to those cases where the deafness has supervened on some catarrhal complaint, and whenever we have reason to believe that the pharyngeal end of the Eustachian tube has become thickened or obstructed.

Asthma.—"For the last twenty-five years we have seldom prescribed any other formula but the following:—

℞. P. Inulæ Elecamp. . . .	ʒss.
Flor. Sulphuris	ʒss.
P. rad. Belladonnæ . . .	℈iv.
P. rad. Scillæ	ʒj.
Kermes min.	℈j. M.

To be divided into 90 powders, of which one is to be taken three times a day."

Our author assures us that he has witnessed excellent effects from this remedy, not only in asthma, but also in a variety of chronic pectoral affections, when they are unaccompanied with fever or inflammatory irritation; as, for example, in what has been called Catarrhal Phthisis, and so forth. To allay the cough in such complaints, he combines the use of the Iceland moss jelly with the anti-asthmatic powders. When these fail—which, according to his report, is not often the case—he advises a trial of the Stramonium inhalation, and also of a strong infusion of the *Camphrée* of Montpelier (Camphorasma Monspeliaca)—with the medicinal virtues of which our author was first made acquainted by a writer in the Revue Medicale for March, 1821. During the paroxysms of asthmatic dyspnœa,

he recommends a mixture containing the extract of Belladonna, Oxymel of Squills, Kermes Mineral and Orange-flower Water.

In *Hooping-cough* also he again mainly trusts to the internal use of the Belladonna, in the form of its powdered root. This remedy was employed with very marked success by *Wetzler* during a severe epidemic of this disease that prevailed at Augsburg in 1810; and it was about seven years afterwards that our author first gave an extensive trial to it. The dose of the powder must, as a matter of course, depend upon the age of the child, its constitution, the character of the existing symptoms, and so forth; but, if we state that a third of a grain should be given to a child twelve months old, twice or thrice a day, it will not be difficult to apportion the doses to other ages. When the fits of coughing are usually followed by vomiting, the powder should be given very soon after this has ceased. We need scarcely say that, if symptoms of inflammatory irritation be present, these must be subdued by the appropriate remedies, before recourse is had to the use of the Belladonna powder.

In accounting for the failure of his favourite remedy in the hands of several medical men, who have recently published the results of their experience with it, Dr. D. alludes, with much judgment, to some of those causes or influences which should always be attended to in estimating the virtues of a medicine in any epidemic disease, and the neglect of which, in the present day, has induced such striking discrepancy of opinion on various practical points among different writers, as is anything but creditable to the sagacity of professional men.

"Before," says he, "any one can fairly and satisfactorily determine the medicative virtues of Belladonna, or indeed of any other remedy, in Hooping-cough, by the effects which it may produce in any particular epidemic, it is absolutely necessary that he should imitate the example of such observers as *Sydenham* and *Stoll*, and have first carefully noted the type and genus of the epidemic itself, in order that he may know *in limine* whether it be inflammatory, or catarrhal, or bilious, &c. in its nature. He should moreover have attentively ascertained the character not only of the medical constitution of the season, but also of the prevailing diseases of the preceding as well as of the current year, so that he may be able to determine, if possible, their cor-relations and mutual dependencies. If the existing epidemic proves to have an inflammatory character, it is scarcely necessary to say that the use of antiphlogistic measures is an indispensable preliminary in the treatment: whereas, if it has a bilious type, we must trust more to the use of emetics and purgatives, before having recourse to the exhibition of the Belladonna."

Before dismissing the subject of Coughs, we may state that Dr. *Debreyne* very strongly recommends the internal use of the extract of Belladonna, in the form of mixture, in most coughs of a nervous nature occurring in adults. He mentions the case of a woman, who had been afflicted with a violent convulsive cough for upwards of twelve years, that was speedily relieved by this remedy—dose, one grain two or three times a day. It is equally serviceable in the cure of obstinate Hiccup, and of any spasmodic constriction of the throat and larynx.

An ointment, composed of four parts of the extract and twelve or fifteen of spermaceti ointment, may be most advantageously used with much benefit in many cases of contraction of the anus, and painful affections of

the cervix uteri: also in various neuralgic complaints of the bladder and urethra.

We now proceed to notice some of the most common gastric and intestinal affections, for the purpose of explaining our author's therapeutic views; and first of all we take the subject of—

Vomiting.—In the vomiting that may be considered to be nervous or spasmodic in its nature—*i. e.* when it is not connected either with inflammation or any bilious disturbance of the stomach—he recommends very highly the use of Colomba powder: it possesses, he says, a sort of specific virtue in such cases nearly as great as Bark does in Agues. He gives it in doses of from 15 to 20 grains in two or three spoonfuls of red (French) wine, before meals. The addition of a few grains of magnesia, or of a minute dose of opium, may be necessary, if much acidity or gastralgia be present; and, should the patient be feeble and anæmic, the subcarbonate of iron may be very advantageously combined with it. Opium is freely used by Dr. D. in various abdominal affections, after the state of the intestinal secretions has been ascertained to be tolerably healthy. The following quotation will show how highly he rates its value.

"We treat all internal pains whatsoever, and more especially those of the abdomen, with some preparation of opium—provided always they are not connected either with acute fever, or with inflammation, or gout. We may, indeed, make a still more general assertion, and say that it is to the use of opium—which is *the* antidote of pain—that we mainly trust for the relief of all painful chronic diseases. If, along with the element of pain, there should happen to be co-existing a rheumatic principle—whether this show itself externally or in some internal organ—we associate the use of rubefacients and other appropriate medicines along with that of opium. Without this most valuable drug, there could be no possible medication for a multitude of chronic diseases. If we were deprived of it, we should ourselves instantly abandon the practice of the healing art. *Sydenham* thanked God for His gift of opium to mankind for the cure of so many of the ills to which we are liable; and we can safely affirm, as far as relates to our own practice, that never a day passes over that we have not occasion to exhibit opium in some form or another. How admirably it acts, almost as a specific, in most cases of Dysentery, not to enumerate a host of other maladies."

Phthisis.—Although Dr. D. classes this too-frequent scourge of France among the chronic Phlegmasiæ, he expressly says that he does not regard it as at all of an inflammatory character in its early stages. During the course of the disease, there is a strong tendency, as every one knows, to the frequent occurrence of a pneumonic and pleuritic attack; but this is to be regarded only as an *epi-phenomenon*, and not as a necessary symptom. With respect to Treatment, we find that our author has almost entirely renounced—after the experience of their utter inefficacy—the employment of nearly all remedies, save and except the insertion of a seton in some part of the chest, and the persevering use of Iceland-moss jelly in large quantities, not forgetting the Opium or Belladonna once or twice in the course of the 24 hours. He recommends the same line of treatment in those cases of chronic purulent Catarrh, the symptoms of which so closely resemble those of genuine tubercular Phthisis; and, in not a few instances,

has a cure taken place under their use, when the case had seemed to be utterly hopeless.

From the Chest we pass on to the Stomach. After delivering some excellent remarks on the mode of distinguishing *gastralgic* from *gastritic* pain, our author exposes, with no less truth than severity, the melancholy mistakes that have been committed of late years by so many of his countrymen, since the prevalence of the Broussaian doctrine. He shows that the existence of an inflammatory state of the stomach may generally be diagnosticated by observing the effects which different kinds of food have upon the gastric pain. If, for example, farinaceous and milky substances can be taken well, while those of an animal nature give rise to a sense of uneasiness, we may very generally presume that there is a greater or less degree of actual gastritis. If the reverse be the case, and if light animal food, such as chicken-tea or mutton-broth, be borne best, we may feel assured that there is no inflammation, however troublesome the gastric uneasiness may be. The diet may therefore be regarded as a most useful *exploratory* means of diagnosis.

"It often happens that the epigastric pain does not yield to leechings and low diet; and wo be to the physician who pertinaciously seeks to combat it by continuing the use of the same means, and who has not learned to modify his treatment according to the varying condition of each case. For the relief of the gastric pain, which resists the application of leeches, &c., opium is often an excellent remedy; a light preparation should always be preferred, and it will be well to exhibit it in some mucilaginous vehicle.* If, however, this does not succeed in the course of a day or two, we should then have recourse to a volant blister. Should this also fail, we shall have good reason to believe that the epigastric uneasiness is more or less dependent upon an atonic state of the stomach; and this we can generally determine by having recourse to the *explorative* diet of which we have spoken. Should such be found to be the case, we must allow the patient more nourishing food, and we should try the effect of an infusion of Rhubarb or Colomba-root, to which may be added a weak opiate, if deemed necessary."

In *Chronic Hepatitis*, our author strongly recommends the use of emollient poultices on the hypochondriac region, applied every night, and also during the day, if the patient keeps his bed. They produce a local diaphoresis, which is often very serviceable in relieving the internal congestion. The occasional use of a tepid bath at the same time will much promote the cure; for the skin is generally very dry and lichenous in chronic liver complaints. Emollient aperient enemata are also very useful. Saline purgatives, dissolved in a large quantity of herb-tea, to be followed by repeated doses of rhubarb—which has long had the reputation

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* A favourite formula of our author is this:—

℞. Aquæ lactucæ	℥viij.	
Laudani Sydenhami	♏l.	
Gum. arabic.	ʒvj.	
Syrupi simpl.	℥ij.	
Bicarbonat. sodæ	℈ij.	M.

A table-spoonful or two to be taken twice or thrice a day.

of directly promoting the flow of the bile—are always more or less necessary.

In various chronic hepatic affections and visceral obstructions, the following formula has been found by Dr. D. to answer exceedingly well.

℞. Pul. Aloes . . . . . 3ij.
Sapon Hispanic.
Pulv. Rhei.
Ferri Subcarbonat. . āā 3iv.
Potassii Ioduretti . . . 3ij. In pil. 120 divide.

Dose—From two to six pills in the course of the day.

If these pills do not prove to be sufficiently purgative, the patient should be instructed to drink some aperient mineral water to aid their action.

Erysipelas.—"The treatment which we usually adopt in recent cases of this disease, before the formation of pus has taken place, is the abortive and empiric plan followed by *Dupuytren*, and which he derived from the practice of M. *Pétit* of Lyons. This method consists in applying a volant blister to the very centre of the inflamed part. The object which we have in view by this bold and seemingly not very rational mode of treatment, is to arrest the internal inflammatory action, and to cause it, so to speak, to *abort*, by drawing to one circumscribed spot of the skin all the violence and *raptus* of the existing disease. It is quite true that this powerful concentration and sudden localisation of the inflammatory action may, in consequence of being excessive, induce gangrene of the blistered part; but this accident is of very rare occurrence indeed. Out of between thirty and forty cases treated by us, we have only met with a single instance of it; and this occurred in a cachectic patient, whose constitution was altogether unhealthy. The application of a blister to the knee was in this case followed by the formation of a gangrenous eschar in the part, and the eventual consequences were extensive detachment of the surrounding skin, and considerable suppuration. Of late years, however, it would seem that this unpleasant result of the vesicatory treatment has been observed several times in the Hôtel Dieu, at Paris, and that antiphlogistic measures have been on the whole very successful; whereas during the years 1813, 1814, and 1815, it was remarked, by all who followed *Dupuytren's* practice, that bleeding, &c. produced but little benefit, while blisters seemed to be quite a specific remedy."

Chronic Cutaneous Diseases.—Our author, without troubling himself with the divisions and subdivisions of these diseases adopted by most dermatological writers, groups them together under the general appellation of *dartres*, and lays down some general therapeutic direction that may be applicable to all. A mild unirritating diet, more vegetable and milky than animal, emollient refreshing drinks—one of the best of which is whey—and the more or less frequent use of warm-baths, should never be omitted. Dr. D. throws overboard, as being utterly useless, the farrago of what have been called *depurative* remedies, such as the infusion of Fumaria, Dulcamara, Bardanum, Saponaria, Scabiosa, &c. &c. and he supports his own opinion on this point by quoting that of *Alibert*. The only internal remedy that he uses is the following:

℞. Flor Sulphuris . . . . . 3iv.
Sulphureti Antimon. rubri . . 3j.
Calomelanos . . . . . gr. xij. M.

To be divided into 40 powders, of which one is to be taken twice a day.

The external treatment is, according to his experience, of much greater importance than any internal remedy. As a matter of course, as long as there is any irritation present, the more simple the baths and other external applications are, the better; but when this has been subdued, we should as early as possible have recourse to such as are slightly stimulant and exciting. Of these a sulphur bath—prepared by adding five or six ounces of sulphuret of potash to an ordinary bath—will be found very convenient. The use of this should be continued steadily for two or three months at least. If the *dartrous* affection is limited to the legs, as is often the case, it may be sufficient to use a partial sulphur bath to them alone: from one to two ounces of the sulphuret may be added to the requisite quantity of water. This is a far better application than all the ointments and lotions that are so generally in use. "If the local atonic *dartres* prove very obstinate, and will not yield to sulphuretted baths and lotions, we are in the habit of trying an ointment—composed of ten drams of the sulphuret of potash to six or eight ounces of lard, flavoured with oil of thyme—and usually with good effect: the strength of the ointment must be varied according to the degree of irritability in the affected parts." Dr. *Debreyne* tells us that, for the last five and twenty years, he has made use of no other application than the sulphuretted ointment—weak or strong, according to circumstances—in the numerous varieties of *Tinea*, or Scalled-head.

Of the Asthenic class or division of chronic diseases, none is of such frequent occurrence, and therefore so important in the eyes of the practical physician, as atonic Dyspepsy, or, as our author designates it, *Gastro-atony*. The following remarks are picked out from the description which he gives of it.

This disease is of very frequent occurrence, especially among women who are subject to leucorrhœal and chlorotic affections. Its most obvious symptoms are loss of appetite, uneasiness and sense of distention after eating, flatulence and often nausea and sickness, a feeling of sinking weakness and craving, more rarely of dragging, pain about the stomach; constipation; tongue white; taste more or less depraved, but without being bitter or clammy, as in bilious derangements; loss of muscular strength; tendency to nervous ailments, and these usually accompanied with great irritability of temper. Very generally (and this remark, by the by, it is especially important to attend to,) an invigorating animal diet agrees better than a farinaceous and vegetable one—a circumstance that is very significant, and obviously excludes the idea of any phlogistic or irritative element being present. The mere circumstance of there being some degree of pain in the epigastrium, even although this be increased on pressure, is by no means a sufficient reason for suspecting the existence of any inflammatory action; for this pain may be truly called an *atonic* pain, and can be relieved neither by opiates nor antiphlogistics, but only by appropriate tonics.

With respect to the *treatment* of Gastro-atony, the mere regulation of the patient's diet will often suffice to relieve the milder and less chronic forms of it. He should avoid the use of much vegetable or farinaceous food, and live chiefly on animal meat and good bread, with or without an allowance of a light sound wine, according to circumstances. The drinking of large quantities of hot drinks, such as tea, coffee, &c. is most

injurious. Our author very pithily remarks, 'pour les maladies chroniques apyretiques, medicaments secs; et pour les affections aiguës, medicaments liquides:' the remark would apply better to *food* than to *medicines*. Steel and vegetable bitters are by far the best remedies that we can administer, more especially when there is any leucorrhœal or chlorotic ailment. Rhubarb is the preferable aperient medicine in such cases. If the patient be subject, as occasionally happens, to attacks of nervous or spasmodic vomiting, Dr. D. always has recourse to the Colomba powder. If much pain accompany this unpleasant symptom, a small portion of opium should be added to the Colomba. Ice too will often be both grateful and useful, not only in allaying the irritability of the stomach, but also in giving it tone.

When *Leucorrhœa* accompanies this atonic state of the digestive organs, Dr. *Debreyne* recommends the use of the following pills:—

℞. Ferri Subcarbonat. . . . . 3iv.
P. Cassuvii (Cashew) . . . 3iv.
P. Aloes . . . . . 3j.
Terebinth. Veneti . . . . . q. s. ut fiat massa in pil. CXX. div.

Dose: one or two to be taken, along with some bitter tincture or infusion, twice or thrice a day.

A somewhat similar formula will be found very efficacious in most cases of *Chlorosis*.

Dropsy.—The following extract gives a good summary of our author's views respecting the treatment of this disease, when it is not dependent upon any organic visceral lesion.

"We should always make sure of one of the outlets, by which nature usually seeks to evacuate the serosities effused within the splanchnic cavities. Now, as in the cure of Dropsies, the serous evacuations most frequently take place by the bowels and kidneys, it will be prudent to act upon both of these emunctories, by combining the use of diuretics with that of hydragogue purgatives. At the same time, we should prescribe a dry and tonic diet, consisting chiefly of broiled or roasted meats, bread, and a certain allowance of light wine. The patient should be directed to take as little fluid food or medicine as possible, and he should therefore seek to quench his thirst with fruit, ice, and such like things."

The favourite medicine of Dr. D. in dropsy is a medicated wine, composed of

Rad. Jalapæ contus. . . . 3iiss.
—— Scillæ contus. . . . 3iiss.
Pot. Nitratis . . . . . 3v.
Vini Albi . . . . . ℔j.

Dose: from one to three tablespoonfuls thrice daily.

The number of alvine evacuations need not exceed six or eight in the 24 hours. The remedy acts in some cases chiefly on the bowels, in others chiefly on the kidneys, while in a third set of cases both emunctories are powerfully affected at the same time. When patients object to the use of this wine, or when it appears to disagree with the stomach, we may have recourse to the use of the following pills:—

℞. Pulv. Digitalis . . . 3jv.
Pulv. Scammoniæ . . 3ij.
Pulv. Scillæ . . . . 3ij.
Extract. Juniperi . . q. s. Ut fiat massa in pil. cxx. dividenda.

Dose: from one to two pills three times a day, washing them down with three or four spoonsful of white wine, in a bottle of which half an ounce of nitrate of potash has been dissolved.

Dr. D. says that he has found these pills especially serviceable in cases of Hydrothorax and Hydropericardium. He is too experienced and candid a practitioner not to admit that we can seldom, or never, hope to effect a *permanent* cure in such cases; still it is an important thing to relieve our patients for a time, and prolong, if it be not given us to save, life.

In cases of Organic Diseases of the Heart, our author mainly relies on the internal administration of the nitrate in combination with tincture of Digitalis—given in much larger doses than are usually recommended—and on the application of leeches or blisters over the *cardiac region*. He seldom varies his plan of treatment, and assures us that, with these simple means, followed out for a due length of time, he has succeeded in relieving a great many patients, who had derived no benefit from a variety of other remedies.

In the closing Chapter of his Work, Dr. D. lays down some excellent general rules for the treatment of disease in the members, male and female, of those austere religious orders, who insist so rigidly on the observance of numerous and prolonged fasts, in addition to other modes of penance. Of these orders, the most conspicuous are the Chartreux and the Trappists, "whose establishments," we are told, "are now so numerous, and whose moral and religious influence, along with the benefits of agricultural improvement which they have introduced, are every day more and more felt and appreciated in many of the finest districts of France." A vast deal of harm has been done for many years past by the too common adoption of Broussaian principles by the medical practitioners of the Provinces; but now, thank God, the errors of Physiologism are most fully acknowledged and repudiated. As a general truth it may be asserted, that the diseases of austere religionists will not bear well much depletion.

Even in acute disorders, the lancet should be sparingly used; and, instead of repeated bleedings, recourse should be had to the internal use of antimonials, and to blisters, &c. In fevers, when there is no distinct inflammatory localization, general bleeding should very rarely, if ever, be practised. Of chronic diseases, by far the most common among the Monastic Community are Gastro-atony and its usual concomitants of Dyspepsia, Colic, Gastralgia, general weakness, and so forth.

As for *Gastritis*, the term might be erased from the peculiar nosology to which we are at present alluding. Opium, either alone or in conjunction with other remedies, according to circumstances, is an admirable remedy in a vast number of the gastric and enteric disorders to which the Trappist brethren are liable. It would seem, from the statements of our author, that these monks are singularly exempt from the epidemics which prevail in the neighbourhood of their establishments. Even the cholera in 1832, did not enter one of them throughout the whole of France.

This exemption he attributes to the temperance of their diet, and the calm unruffled tenour of their lives. He paints in glowing terms the joys of the peaceful life of the pious Cenobites.

"How greatly mistaken," exclaims our worthy author, "are they who suppose that religious penitents are gloomy, melancholy and hard-hearted men, or that they become the early prey of a tedious and painful death! No; their life is one long and blessed repose; or rather, as the Prophet says, it is a river of peace which calmly bears them on to the everlasting rest of God. They seem to the eyes of the worldly, who are altogether absorbed with the frivolities of the passing scene, to languish and die; and yet they are full of health and life, for they taste a peace and happiness of mind which the world cannot know: *Visi sunt oculis insipientium mori; illi autem sunt in pace.*"

A PRACTICAL TREATISE ON THE DISEASES OF THE EYE. By *William Jeaffreson*, late Surgeon to the Bombay Eye Infirmary, in the Hon. East India Company's Service, &c. &c. London. Renshaw, 8vo. pp. 307.

THE author tells us that "the present work has been undertaken chiefly with the motive of inculcating the necessity for regarding ophthalmic practice as but a branch of the whole science of practical medicine, and in order to modify those more violent notions respecting the treatment of diseases of the eye, which are as yet even but too prevalent." We had really thought that no such necessity existed; and that no one in the present day even dreamed of practising as an "oculist" in the acceptation of the term as it was understood fifty years ago. It is true that certain parties are prone to adopt exclusive and violent extremes in practice—at least if we may believe their writings, although our own experience has often shown us that many are more prejudiced on paper than when adapting their opinions to individual cases—yet we think that we shall prove in a subsequent page that our author would conduct any, who were blind enough to trust him, from one grave error into another as dangerous, if not more fatal to vision. Have the Traverses, Lawrences, Middlemores and Tyrrells of this country written in vain, that it is left to Mr. Jeaffreson to write a work chiefly to inculcate "the necessity for regarding ophthalmic practice as but a branch of the whole science of practical medicine?" We have thought, indeed, that the profession were now fully persuaded that—in the words of Dr. Hocken*—"No one can possess scientific views of ophthalmic disease unless its study be based on comprehensive views of disease generally—hence all was dark and erroneous as long as this department of medicine was monopolized by the charlatan, and it has only within the last few years acquired its present clearness and accuracy. In the eye we may behold a miniature representation of all diseases; for here, says Dr. Latham (Med. Gaz. Vol. iii.,

* A Complete Condensed Practical Treatise on Ophthalmic Medicine, Part 1, p. 1.

p. 216) "Nature has displayed, as in a glass, all the little intimate details of her own wonder-working powers; her modes of disorganizing, and her modes of repairing: and the aids which she receives, and the impediments she sustains, from the right and wrong application of medical agents."

Our author goes on to remark that, "in the multitude of other occupations, and the studies which the regulations of the present day have imposed upon the general practitioner, it is hardly possible for him to have devoted much time and attention to the consideration of this particular branch of medicine during his pupilage, and yet, in after-life, the responsibility of many serious forms of disease of the eye will probably fall to his lot. It has been the author's endeavour so to simplify his subject as to render assistance to this highly valuable and intelligent body of practitioners."

Taking it for granted that there exists a large class amongst the medical profession who are desirous of acquiring a clear correct knowledge of ophthalmic disease and the best modes of treatment, without having either the time or the inclination to wade through the voluminous publications of British and Foreign authors on the subject; it becomes a question, what kind of work would best supply the wants of this particular class—viz. students and medical men actively engaged in the practice of their profession. It is of no use to tell a person thoroughly ignorant of the subject, that "when the iris is the chief seat of inflammation or much implicated in the process, another important adjunct in the treatment deserves attention," unless you give him some clear directions by which he may distinguish iritis from conjunctivitis. Of what benefit then is our author's work likely to be to those who are practically unacquainted with the subject—for whose convenience the book is professedly written—when they turn to its pages and find that not the slightest information is given of the symptoms or diagnostic indications, beyond some general remarks, in such important diseases as those of the iris, cornea, sclerotica, and retina?—Passing by these matters, which we presume he considers unnecessary, he proceeds at once to the consideration of treatment. "In acute inflammations then of the iris, cornea, sclerotica and retina (if indeed such ever *occurs* in an isolated form), the first object of the practitioner is to check or subdue the violence of the inflammatory action."

We have received for review within a recent period two Works on the Diseases of the Eye, written to supply the wants of those whose time is much occupied. One of these—Mr. Walker's Oculist's Vade Mecum—we noticed in our April Number; the other is by Dr. Hocken, and is entitled "A Complete Condensed, Practical Treatise on Ophthalmic Medicine," to be completed in three Parts—the first Part having only yet appeared. Another work, on a similar plan, has been advertised as in course of preparation by Mr. W. Jones. These works differ—and we have little doubt that Mr. Jones's will differ from our author's, inasmuch as they give a clear, condensed, practical account of the diseases of the different tissues of the eye,—so divided as to facilitate the acquisition of knowledge, previous to any remarks on the value of remedies and the direction of treatment: and hence are of much greater use to those who are desirous of acquiring information which will prove valuable in the hour of need.

The work which is really calculated to supply the wants of the student

and actively-engaged practitioner, should be in truth a just medium between the voluminous works already in circulation, and those small, incomplete volumes, which are nearly, if not altogether, useless—and should contain a careful digest of the opinions and practice of foreign as well as British authors. Dr. Hocken's Work is written on this plan—his object being to give "a complete digest of all that is known of the Diseases of the Eye, both from his own experience and from all sources, British and Foreign." "He has condensed his chapters as far as was compatible with a *complete practical* view of the subjects treated of," and, "at the same time, has endeavoured to introduce every useful, practical and interesting fact." "As the main object has been to render the volume a faithful guide in treatment, the author has introduced a chapter on the best modes of examining the eye in various diseases, of arriving at a just diagnosis, and of directing treatment on the most successful principles." We fully believe that to examine an eye properly, to diagnose its diseases readily, and to have some clear general principles by which treatment shall be guided, is more than half the battle; and that common sense will generally be sufficient to guide the intelligent practitioner in the adaptation of remedial measures to particular cases, who is otherwise ignorant of ophthalmic practice; and, on the contrary, that no one is competent to treat the diseases of the eye who is unable to form a proper opinion of their nature and of the tissues involved.

Our author's "Contents" consist of eight chapters, whereof the 1st is introductory; the 2d treats of "Acute Non-specific Inflammation." 3d. "Chronic and Specific Inflammation." 4th. "Structural Changes the result of Inflammation—Affections of the Humours, &c." 5th. "Affections of the various Appendages of the Eye." 6th. "On the Affections of the Nerves of Vision." 7th. "Cataract." 8th. "Malignant Diseases—Mechanical Injuries, &c.—Means of Preserving the Eyesight." Of this mode of arrangement we may remark that, had we to compose a work on the diseases of the eye, we should certainly take a lesson from it—a lesson, however, which would lead us to avoid and not to copy our author's kaleidoscope plan.

Our author gives a table of 53,359 cases of ophthalmic disease which came under his care during the ten years he was surgeon to the Bombay Eye Infirmary—viz. from 1824 to 1834. "This table, constructed simply with the view of affording to Government a rough record of the total amount and leading characters of the cases which came under treatment, must not be considered in the same light as if it had been drawn up for scientific purposes, in which respect it is certainly defective in many points of view." P. 12. "But of this number nearly seven thousand utterly blind persons were restored to perfect sight; namely, one thousand four hundred and thirty-two suffering from amaurosis, and five thousand five hundred and seventeen afflicted with cataract; the subjects of sixty-seven of which last were born blind." P. 16.

In another publication of the author's we find that the amaurotic cases were principally cured by internal remedies, and by the use of a native preparation, which, "strange to say, instead of being applied to the eye, is dropped into the ear!" At p. 47, the author tells us that "the natives of India are in the habit of using a liquid which they drop into the ear,

in cases of ophthalmia, and which appears to owe its beneficial agency to a diametrically opposite mode of action to that of counter-irritation. No pain or inconvenience is experienced to the ear, and yet a soothing influence seems to be propagated to the eye. When first I heard of this practice I was disposed to consider it as altogether hypothetical; but I must confess that personal observation of its effects, in the hands of the native practitioners, as well as numerous subsequent trials made by myself, have induced me to believe this practice to be in many cases highly efficacious. When I explained to one of the native doctors, who employed this remedy, by means of a rough diagram, the nervous connexions between the eye and the ear, he could not conceal his satisfaction. I do not know the exact nature of this substance, but I suspect it to consist of narcotic and sedative ingredients. To the intimate relationship between the eye and ear, from the distribution of nervous filaments arising from a common trunk, is due, no doubt, the degree of sympathy so often observed to exist between these parts in various forms of disease, and to the same anatomical relationship is probably to be attributed the efficacy of this remedy, acting no doubt in the same inexplicable manner as many narcotic substances in ordinary use do, when applied externally for the relief of internal disorders. It may be remarked of this remedy, although deviating from the strict subject of our investigation, that it is no less highly esteemed by the native doctors in many forms of deafness; and I have myself had ample experience of its efficacy in some cases of this affection, having during my residence in India, paid considerable attention to diseases of the ear as well as those of the eye."

From a careful perusal of our author's work, we are compelled to confess that it is beyond our power to find even one original opinion, of the least practical value to our readers; the whole being but an imperfect and confused account of matters which have been much more ably handled in almost every work on the Eye, published during the last fifty years. Throughout the entire book the same lengthy but abstract reasoning on treatment is given—the treatment be it remembered of words and names—whilst, with one or two exceptions, symptoms are entirely omitted, it being, we presume, in the author's opinion, unnecessary for men actively engaged to know anything of ophthalmic disease, except in name—unnecessary to be able to distinguish one disease from another—and totally unnecessary to be so minute in diagnosis as to discriminate between the inflammations of the conjunctiva, cornea, iris, or retina. In the course of our painful journey through Mr. Jeaffreson's "Practical Treatise," whenever we have fallen on one portion which has pleased our wearied senses more than another, a striking similarity has caused us to turn to the work of some author with whose pages we were previously familiar, and left little doubt in our minds that, notwithstanding the immense experience of our author, he has not scrupled to avail himself of such assistance, although "the brevity and conciseness of the present work must plead an apology for that want of reference to other writers, which would be less excusable in a more lengthy treatise."

As our Journal proverbially deals as tenderly and favourably with the productions of authors as it can, consistently with a strict adherence to truth, we will conclude our notice of Mr. Jeaffreson's work by extracting

a few of his remarks on treatment, winding up with the treatment of Cataract, which—although not novel—is, we think, the best part of the volume.

From our author's Preface to the concluding section, the tenour of his advice would, we think, have a tendency to lead the unwary from one grave error into another as injurious, if not more so, to vision. The errors we allude to are, on the one hand, unnecessarily active and violent methods of treatment (which our author especially reprobates); and, on the other, attending too much to the system at large, and too little to the suffering organ. Our author remarks:—

"Less has been trusted to nature, and diseases of the eye are even now combated with a severity of treatment which would not be applied to similar affections in other situations. True it is, from the nature of the organ affected, slight changes alone, impairing the transparency of its structures, may be disastrous in a degree disproportioned to similar changes in other parts; but even in these structures, minute and delicate as they are, Nature is not deficient in her powers of repair; and the consideration of this subject should rather lead the public to seek early attention to diseases of the eye, than the profession to combat them at advanced stages, by means which are then at least incapable of restoring the structural alterations which have been already established. Then against this consideration must be set the still more important one—that the eye is not a vital organ—consequently but few of its diseases are attended with danger to life; the oculist, therefore, should be careful in his attempts at repairing a valuable, but not a vital organ, to avoid as much as possible all serious injury to the whole machine of which this is but a part."—*Preface.*

We fear that, whilst our author was soliloquising in an acute inflammation—say of the iris or retina—the organ would be irremediably lost for all useful purposes, and then the patient would find little consolation in being told that his system had escaped without injury, while vision was gone for ever. "Wisdom at one entrance quite shut out."

A few pages further on we find our author stating that, in acute inflammations of the iris, cornea, sclerotic and retina, "blood-letting may be required, but far less frequently, even in these affections, than is usually supposed; next to this an emetic, especially of antimony and ipecacuanha, presents us with one of the most powerful means of effecting this purpose. In either instance this treatment may be followed by a brisk purgative, indeed it frequently happens that a good dose of calomel and colocynth, followed by a common black draught, is sufficient for this purpose. The force of re-action is to be then kept within bounds by smaller doses of the antimonials, perfect rest, (especially of the organ affected), determination to the skin, kidneys and bowels; and mercury is to be cautiously administered for the purposes above explained; if the disease shows a disposition to subside steadily under this treatment, the mercury should by no means be unnecessarily pushed to salivation." P. 31. We should not like to place ourselves under Mr. J.'s care, at all events, as far as this work gives evidence of his mode of treatment. We are fully convinced that acute inflammations of these tissues—that is, inflammations proceeding with rapidity and severity—require most active measures especially directed to the condition of the suffering organ. But treatment, to be successful, must not always be the same for every inflammation proceeding with rapidity and

severity; for whilst in some cases general and local bleeding, purging, mercurialization and blisters, &c. are absolutely demanded to check the activity and urgency of the symptoms, in others, tonics, good diet, or even stimulants, are equally required from the very first, in conjunction with local treatment most sedulously and carefully applied. Take, for example, an ordinary attack of acute syphilitic iritis—a disease which is of a decidedly sthenic character, and is most promptly and effectually relieved and cured by the adoption of decided antiphlogistic treatment and mercury, &c., whilst, on the other hand, we may instance that form of acute corneitis which occurs in old persons, or the severe inflammation and ulceration of the cornea which comes on in very depressed states of the system, where upholding the general powers, and subduing the local actions, which tend to the destruction of the organ, by judicious local treatment, hold out the only chance of success.

Our author, however, tells us that, "as respects the antiphlogistic treatment (in syphilitic iritis), it must not be forgotten that this should be pursued with great caution and nicety, as a treatment preservative of the eye, not curative of the disease as a whole. An active antiphlogistic treatment pursued in syphilitic affections, not complicating the eye, would be judiciously condemned as injurious; when an affection of the eye does complicate it, therefore, we should prescribe such treatment with caution." P. 68. Our author is in error because he reasons on false premises. Now we know that antiphlogistic measures—*judiciously applied*—are often of the greatest value in the treatment of many of the stages and symptoms of syphilis, although, of course, not in all; so, in acute syphilitic iritis, the judicious use of antiphlogistic treatment cures the disease without any injury to the constitution—so far from it, that the general state bears, and is benefited by, the means employed. This is the conclusion of general experience, and it would be obviously most absurd to argue against the appropriate use of a remedy by adducing consequences which may arise from its improper or injudicious administration.

We will now turn to the chapter on Cataract, and give our readers an account of the "mixed operation advocated by the author."

"The operation," he tells us, "is no less simple in its description than in its performance. The instrument I use is an ordinary couching-needle with a double cutting edge, as in the operation for solution. The needle being introduced as before described, when speaking of couching and solution, I first endeavour to cut up as much of the lens in situ, without disturbing it from its natural position, as possible. If the cataract be of the softer kind, it of course yields to the needle, and the operation then becomes simply that by solution; if it be so hard that it cannot be cut up, the capsule at least is freely lacerated, and then the point of the needle being raised, is made very gently to press the lens downwards to the extent of a few lines only, and just sufficient to admit of the entrance of a few rays of light. It rarely happens, however, that the cataract is so uniformly hard but that some portion of it at least may be thus cut up. The lens being held in this position for a few seconds, the needle is then carefully withdrawn. Belladonna should now be kept constantly applied to the orbital ridges, for the twofold purpose of freely admitting the access of the aqueous humour to the lacerated lens, and for facilitating the vision of the patient during the process of absorption." 235.

We have often seen an operation somewhat similar, but far superior, to

Mr. Jeaffreson's, performed with extraordinary success. It is applicable to a very large class of cases, and is comparatively without risk, although it requires some time for the completion of a cure. The operation is divisible into two portions—the anterior and posterior operation;—in the first, the needle is introduced through the cornea, in front of the iris, (the pupil having been previously dilated,) and the capsule is carefully cut through to a moderate extent, with as much of the structure of the lens itself, as its degree of hardness and other circumstances determine to be proper—taking care not to displace the lens, and never to do too much at one operation. Solution and softening of the lens succeed the admission of the aqueous humour, to an extent proportionate to the less degree of hardness of its structure, and the youth, &c. of the patient; sometimes so much so as not to require a repetition of the operation, at others, demanding two or even three repetitions of the process. When it requires a renewal of these measures it is well to leave about a fortnight between each operation; but, after a longer or a shorter time, the hard nucleus of the lens is entirely removed, it is then that the posterior operation is performed. A needle cutting some distance on its shoulders is introduced behind the iris, and the lens entirely broken up and displaced, leaves the pupil in a short time perfectly clear and unobstructed. Very hard cataracts are better suited for extraction, and very soft or fluid ones may be broken up at once by the posterior operation, but with these exceptions there are no cases which cannot be cured by this method of treatment both safely and pleasantly, if not quickly, for the old proverb is often fulfilled in this disease, that "the more haste the less speed."

Our author's remarks on his mixed operation are also in many particulars applicable to that we have sketched. "The first advantage which it presents is its almost universal applicability; for whilst, in by far the majority of cases, one operation is sufficient to restore the patient to sight, there are indeed but few, if any instances, in which so desirable an end may not be effected by its repetition. Over extraction it presents all those advantages which have been enumerated as belonging to couching, when comparing that with the former operation, but it possesses these advantages, in a degree by so much superior, in that the serious inconvenience sometimes attending the operation for couching, namely, pressure of the lens upon the retina, cannot occur in this mode of proceeding. The operation, moreover, being more gentle in its performance than that of couching, is attended with far less risk of after-inflammation; for whilst in couching, whether by depression or reclination, many of the cells of the vitreous humour are necessarily broken down; in this operation, if carefully performed, a very much less degree of injury is inflicted upon this structure." 250.

The work, we repeat, is unworthy of the author, considering that, according to his own account, the number and extent of his opportunities of acquiring knowledge "have not been surpassed by any oculist however eminent." It clearly shows us that experience is gained not merely by the number of cases a person may see, but by the use he makes of his opportunities; and that our author would probably have written a better work if he had seen but a tithe of the number of cases he boasts of, and paid ten times the attention, he seems to have done, to each case individually.

A Practical Treatise on Midwifery. By *W. Chailly.* Translated from the French, and edited by *G. S. Bedford,* M. D. New York, 1844. Pp. 528.

It is to the grateful enthusiasm which Dr. Bedford feels towards the teachers of the French schools, rather than to the intrinsic merits of the publication, that we owe this translation. The great lying-in hospital of Paris, and the system of clinical instruction there practised, (conducted however with a useless indecency which would be tolerated by no class of females, however degraded, among ourselves,) certainly offer greater advantages to the pupil's speedy acquisition of a knowledge of some of the difficulties of this branch of the profession, than our own institutions, with the exception of the Dublin Lying-in Hospital, do. But, if we mistake not, by this great accumulation of difficult cases within a brief space of time, the student is sometimes misled into a false estimate of their true proportion; and at the same time that he acquires greater facility in employing manual interference, is apt to be impressed with the idea that such is much more frequently necessary than it really is. We all know how the extraordinary cases fix the attention of the hospital students, so that their teachers are frequently obliged to remind them that few of these in after-life will fall to their lot. The plan adopted in this metropolis of attending the patients at their own homes, has at least the advantage of exhibiting practice to the student as it really exists; and in this and our other large towns, the opportunity of attending as many cases as may be desired or necessary is never wanting, while the advice and assistance of senior pupils, and of the teachers themselves, are always forthcoming at the desired moment. Testing each by the results, at least, we have no cause for dissatisfaction; for, whether we consider the actual condition of the practice of midwifery in this country, or the sterling character of the vast number of scientific and practical works which have been written for its illustration, we feel conscious of a proud pre-eminence. This is no idle boast, and if we were disposed to be vain-glorious, this work itself would furnish us with the material; bearing testimony, as it does, to the superiority of the English practice, in more than one important point, by adopting it, and that too in the very cases in which it has been so long the fashion in France to decry the same. Thanks to the labours of Denman, Hunter, and their successors, that which was looked upon heretofore as a low art, or, at all events, as a very subordinate branch of the profession, has been elevated during the last half-century to the dignity of a scientific pursuit, capable of giving employment to the most profound research, and to call forth the powers of the highest genius. Nor has such elevation been accomplished by the aid of either of the great medical corporate bodies, who have acted indeed rather the parts of cruel step-mothers than of tender foster-parents; and although one of these, struck perhaps by the comely appearance of her neglected child, has thought proper to acknowledge the error, and receive her to her arms, the other shows at present anything but signs of compunction.

We were not surprised to observe, during the perusal of this work,

little or no reference to the authors of our own country, so that a French student rises from its perusal unacquainted with even the names of those who have contributed so much to the modern advancement of midwifery. But, however consistent this is with the usual practice of French medical writers, we must confess we have felt much surprise that Dr. Bedford has in no-wise supplied the deficiency. He states, in the title-page, that he has not only translated but *edited* the work; and although we do not understand the sense in which he employs the last word, it seems to us, occupying as he does the post of professor of midwifery, the sense in which he ought to have employed it should have been in furnishing information to his pupils of the sources whence the deficiencies of the author might be supplied from. He attempts nothing of the kind, but seems to think the whole matter of the obstetrical art and science is comprised in this very imperfect work.

Having said thus much upon the incompleteness of Dr. Chailly's treatise, we may observe, that some parts are well executed, especially all that relates to delivery, and manual interference; and, although the author still adheres to practices with the forceps, which we consider reprehensible, he has manifestly advanced farther in the career of improvement, than any continental writer with whom we are acquainted.

We proceed to make a few extracts.

PREMATURE ARTIFICIAL DELIVERY AND THE CÆSAREAN SECTION.

This chapter should be printed in letters of gold, as showing the triumph over prejudices we had began to think were inveterate. It is somewhat humiliating for France that her practitioners should have so long consented to obey the mandates of priestly dictators; and, that, long after that incubus had been removed, they should have been consulting about, protesting against, and stigmatizing others for pursuing, a practice which common sense and humanity dictate, and which all practitioners of eminence in any other part of Europe have been unanimous in recommending. But, however, *nous avons changé tout cela*, and M. Chailly is as determined an advocate of the proceeding as can be desired.

"Thanks to the efforts of MM. Stoltz, Dezeimeris, Dubois, and Velpeau, delivery brought on before the full time, is an operation hereafter recognised in French midwifery. For a long time it proved useful to our neighbours in England and Germany, while a foolish prejudice caused it to be rejected by French practitioners, who do not hesitate to have recourse even to the Cæsarean section and symphyseotomy. If we consult the statistics published in 1838, by M. Stoltz, it will be seen that, in 211 premature artificial deliveries, more than one-half the children survived, and scarcely one woman in 15 died; now, compare these results with those obtained from the Cæsarean Section and Symphyseotomy, and then decide. WE HAVE NOT WITHIN THE WALLS OF PARIS ONE SOLITARY EXAMPLE OF A WOMAN WHO HAS SURVIVED THE CÆSAREAN SECTION. She who lived the longest was one of those on whom I assisted M. Dubois to operate. She died on the 17th day of a tetanic affection, when everything promised a most successful result." 131.

And again, when treating specially of the *Cæsarean Section*, in another part of his work, the author observes—

"The Cæsarean operation is one of the most serious that can be practised on the living woman; *five-sixths, at least, die.* With such results, it is difficult to conceive how a practitioner can decide to perform it, when, by sacrificing the child, it is possible to save the mother. Thus, when the pelvis measures more than two inches, cephalotripsy should be had recourse to. It will be in vain objected that the use of the cephalotribe (a compressing forceps, invented by Baudelocque, jun.) is murderous, when the pelvis measures but a trifle over two inches. To this it may be replied, that this instrument, even in these conditions, presents a much better chance of life to the mother than the Cæsarean section; and if the cephalotribe has not yet rendered all the service it will one day show itself capable of doing, it is because accoucheurs are not sufficiently familiar with its use, and because, in most cases, it is not employed until the female, already exhausted by a prolonged labour, and by attempts of every description to relieve her, is about expiring. While the Cæsarean operation, on the contrary, is, and should always be, performed under favourable circumstances, such as will rarely be absent when the fœtus is living.

"I am fully of opinion, that the period will arrive when the generation which succeeds us, judging without prejudice, will render proper justice to the cephalotribe, and proscribe the Cæsarean Section in cases in which, by destroying the fœtus, it will be possible to save the mother. At present I will not practise the abdominal and uterine section, in order to extract the fœtus, except when the pelvis is so contracted as to render the mutilation of the fœtus impossible. But when the contraction is less than two inches, the Cæsarean operation must be resorted to; this is the only resource left to the mother; and if the operation be performed at the proper time, the child may be saved.

The author objects even to the indiscriminate performance of the operation even after the death of the mother.

"If the female should succumb during labour, it would be better, if the condition of the organs would permit, to extract the fœtus by means of the forceps, or by version. How often, after the death of the mother, has this operation been practised; and practised, too, even when auscultation has not detected the pulsations of the fœtal heart? Some accoucheurs recommend always to perform it, whether the pulsations of the heart are heard or not, and even after the lapse of 10, 15, or 24 hours from the death of the mother, children having survived the death of their parent for this period. There can be no objection to this precept as a general rule of conduct, being always careful to ascertain that the female has really expired, and careful too to perform the operation with as much vigilance as if she were living, for fear that she really were so. When, however, this rule was originally laid down, its utility was undoubted, for at that period there were no certain signs by which the life or death of the child could be established. But we are now perhaps not so well convinced of its necessity, since auscultation furnishes the certain means of ascertaining the pulsations of the heart; a means the more infallible, as all the other organs in which life is extinct are in the most absolute repose, so as not in any way to interfere with auscultation. As for myself, I do not hesitate to state, that unless the friends should urgently desire the operation, (nor yet if they did, we should suppose,) I would not perform it, unless I had distinctly heard the pulsations of the fœtal heart. And I should pursue this course for the reason that the death of the mother might be only apparent; and if the operation be performed only 10 or 15 minutes after it was supposed she had expired, her death would certainly be caused on the spot, while, without the operation, she might have been restored to life." 388.

These statements of M. Chailly become invested with great importance when we recollect, that he is delivering the sentiments of the medical officers of the chief midwifery institution in France; and that, "after the deliberation of the Royal Council, the use of this Treatise is authorized in the Faculties, in the Schools of Medicine, and in the different courses instituted for the instruction of sage-femmes, Villemain, Minister of Public Instruction."

May we not hope that, in the course of another half-century, some writer on French Clinical Midwifery may be able to apply to Paris the observation made by Dr. Robert Lee, in reference to London:—"There is no eminent accoucheur now practising in London, who has been present at the performance of the operation upon the living body, or who would recommend it, if delivery could be effected by the perforator and crotchet?"

The American translator, however, is disposed to think M. Chailly is too hasty in his abandonment of the Cæsarean section. He says, in a note to the above—

"The Cæsarean Section is, undoubtedly, a dread alternative for the accoucheur to choose, but I cannot agree with Dr. Chailly that its fatality is as great as he represents; nor am I disposed to adopt the opinion, unfortunately too general, that craniotomy is almost always to be preferred to the Cæsarean Section. In truth, it needs some nerve, and for a man of high moral feeling, much evidence as to the necessity of the operation, before he can bring himself to the perpetration of an act which requires, for his own peace of mind, the fullest justification. The man who would wantonly thrust an instrument of death into the brain of a living fœtus, would not scruple, under the mantle of night, to use the stiletto of the assassin. Yet, how often has the fœtus been recklessly torn from its mother's womb piecemeal, and its fragments held up to the contemplation of the astonished and ignorant spectators as testimony undoubted of the operator's skill! Oh, could the grave speak, how eloquent, how momentous, how damning to the character of those who speculate in human life, would be its revelations!"

We are not disposed to denounce the use of the strongest language by the lecturer to his pupils in order to deter them from the rash use of instruments, especially those of a destructive character; and we have no doubt, from facts incidentally mentioned in the notes of this work, such is much required in the editor's country; but we submit that, in the present case, it is a little misplaced. The cases under discussion admit of no doubt as to the necessity of interference of some kind, and the only question is, whether the child or the mother is to be sacrificed; or at the very least, whether the life of the latter is to be placed in great additional jeopardy, for the sake of attempting to save that of the former. Little art would be required to produce a picture as graphic of the horrors accompanying the Cæsarean Section as Dr. Bedford has drawn of those attending embryotomy—horrors, be it remembered, perpetrated upon a being whose sensibilities are worked up to the utmost agony, and whose importance, if not to society, at least to her family, is often inappreciable; and whose suffering, and value of whose life can scarcely be compared with that of her child, who if not dead already, is often dead to sensation by reason of the long-continued pressure upon its brain, and has contracted no duties, ties, or sensations, as has a living being.

Dr. Bedford objects that the mortality from the Cæsarean Section has been exaggerated. Referring to Dr. Churchill's Tables, he finds that about one mother in five has died after craniotomy, and one out of 2¼ recovered after the Cæsarean Section. In answer to this we would state, that the very horror which most practitioners feel for performing craniotomy too often induces them to *delay the operation* so long that the mother's powers have become exhausted beyond the power of revival. There is nothing in the nature of the operation itself to lead to so fatal a result. The case is very different as regards the Cæsarean, in which large and important organs are wounded. Moreover, in regard to this last, we are more disposed to attach importance to Dr. Chailly's statements, that five-sixths die after it, than to Dr. Churchill's Tables, which comprise so insignificant a number of cases: viz. 321 since 1750. These, compared with the number which have occurred on the Continent, and have never been recorded, are as nothing. The real proportionate mortality can therefore never be accurately ascertained, and is much more likely to be approximated by one living in a country where the operation has been so frequently undertaken, than by the mere compiler, however able, of published cases.

Dr. Bedford refers to a remarkable case in which the subject of it had so great a deformity of the pelvis, that the antero-posterior diameter did not exceed two inches. In her first labour, 1831, embryotomy was performed, as also in her second, in 1833. In 1835 and 1837, this "heroic woman" underwent the Cæsarean section, mother and child on each occasion doing well. He also relates another case of a dwarf, in whom the Cæsarean section was performed with perfect success—the pelvic diameter not exceeding 1½ inch. He considers this operation should always be resorted to when the antero-posterior diameter of the superior strait measures less than two inches, on account of the hazard of laceration the mother incurs. "My opinion upon this subject is not a speculative one; it is based on repeated examination made on a wooden pelvis constructed for this purpose; and I am satisfied that even with the space of 2¼ inch, all the dexterity which the operator can bring to his aid will be required to protect the mother from serious if not fatal injury."

The Forceps.

M. Chailly simplifies much some of the rules and proceedings of his predecessors; but he, like all other French writers, recommends the application of this instrument in cases in which English practitioners consider craniotomy the best practice, especially when the head is high up above the brim, or has been impacted for an excessively long period. With us the guiding point is the safety of the mother, not neglecting that of the child, where attending to it will not compromise that of its parent. There can be no doubt that, when not delayed too long, for this is a principal cause of death from labour requiring interference, the embryotomy instruments may be employed with far less risk of injuring the mother than can the forceps. This cautious use of the forceps in Britain has given rise to the laying down a rule severely commented upon by the translator

of the present work, but yet of whose utility we feel convinced. Dr. Bedford goes the whole length of the French practice, and after quoting passages from the work of Dr. Ramsbotham (as one of our latest authors), in which the necessity of being able to feel one or both of the *ears of the child* before applying the forceps is insisted upon, thus proceeds:—

"In the first place, I would observe, that my own experience teaches me that it is not an easy thing to reach the ear, even when the head is at the inferior strait, and, secondly, if the rule as laid down by Dr. R. be adopted, fatal consequences must inevitably frequently ensue to both mother and child.

"To illustrate this point, let us suppose that the head is in the pelvic cavity; the mother suddenly becomes exhausted, either from hæmorrhage, or the fatigue of antecedent effort. No matter what the cause may be, she is exhausted, and immediate delivery is indicated. The accoucheur introduces the finger, and endeavours to reach the ear: he does not succeed; the patient's situation becomes more and more alarming; he again makes the attempt to find the ear; he fails; he feels in his heart, indeed everything clearly indicates, that the forceps should be applied, but '*he cannot reach the ear:* he delays, in the hope that '*the head may come down into the pelvis sufficiently low to enable him to feel one or both ears distinctly.*' Alas! this proves fallacious. The assistants supplicate him to do something to relieve the patient, for they see she is dying; and what will it avail, under these melancholy circumstances, for him to exclaim, 'I can do nothing, *for the ear of the child cannot be felt?*' His patient, of course, sinks, and here are two lives sacrificed because of a precept in which I can see neither propriety nor meaning. Let it not be supposed that this is an overdrawn picture. Such results must inevitably ensue from an adherence to the rule to which I have alluded. When Dr. Ramsbotham says '*that it is necessary to touch one or both ears, because they become the guide to the proper adaptation of the blades,*' he makes use of language that, I must confess, surprises me not a little. If there be any meaning in what he says, it is simply this, that unless the ears are felt, it will be impossible to arrange the blades of the forceps, because of the ignorance of the accoucheur as to the position of the head. Admitting the truth of this author's reasoning, when the head is at the inferior strait, which I most unequivocally deny, how is the position to be ascertained when the head is still at the superior strait? Certainly not by feeling the ears, for these cannot be felt once in a thousand times, before the head has descended into the pelvic cavity. The position of the head can be told both at the inferior and at the superior strait by the direction of the fontanelles, sagittal suture, &c., &c.; and these will indicate the manner of applying the forceps, and of seizing the head in its bi-parietal measurement.

"The rule therefore for the pupil to adopt, is to pay no regard either to the ear or the length of time the head may have been in the excavation (!), but to proceed to artificial delivery the moment the life of either mother or child becomes seriously endangered. The very essence of forceps' delivery, that which commends it so strongly to the consideration of the profession, is the ability with which it enables us to save both mother and child. Therefore if artificial delivery be indicated, *have recourse to it before the life of the child has been sacrificed, or the vital force of the mother so far expended as to render her recovery extremely doubtful.* I do not advocate a meddlesome midwifery, but I do most strenuously recommend such an application of the means put into our hands of affording relief as will achieve the maximum of good to both mother and child." 316.

The case put by Dr. Bedford of hæmorrhage or other complication of labour rendering speedy delivery a paramount object, the pelvis being as he supposes natural and proportionate to the size of the child, may be easily disposed of. If the head had entered the pelvis, the ears could

assuredly be felt; and the forceps or vectis would be applied by every practitioner. If, on the contrary, it had not, version would be resorted to, and with far less chance of injury to the mother, a far more speedy termination of her sufferings, and less risk to the life of the child, than could be expected from the use of the long forceps, employed by the most expert operators, who are not always to be obtained in these emergencies. Certainly for ordinary practitioners to resort to this instrument under such circumstances would be highly improper, to use the mildest terms, and is even deprecated by both author and translator of this work a few pages on: so that the true drift of his recommendations is somewhat difficult to arrive at. Dr. Chailly says, "when the head is half engaged in the superior strait, the rules for the application of the forceps are precisely the same as when it has descended into the cavity. The operation, however, is more difficult and dangerous for both mother and child. It should, therefore, never be had recourse to, except where version is impracticable in consequence of the excessive ascent of the uterus, and (is it possible he can recommend its employment in place of the perforator in this case?) when the pelvis is malformed or the size of the head very large. The regular application of the branches at the superior strait is exceedingly difficult: *indeed it may be said to be impossible in most cases.*" Let the reader bear in mind these are the words of one of the most expert of French accoucheurs, kept in constant practice by the resources of a large hospital; and then ask himself whether, in general practice, the risking the safety of the mother for the very remote chance, under these circumstances, of preserving the life of the child, is a justifiable procedure. "Too much attention," says the translator, "cannot be given to the opinion of M. Chailly in reference to the *difficulty and danger of applying the forceps where the head is at the superior strait* * * * * * a rule which I hold to be almost universally proper: to turn rather than attempt delivery by the forceps when the head is still at the superior strait."

We quite agree however with this gentleman in deprecating the practice of MM. Dubois and Chailly of employing the forceps in a *furtive* manner. "Keep the patient in ignorance," they say, "of what you are about to do, assure her that the hand alone will suffice, conceal the instrument from her sight, and be careful not to make any noise in locking the branches. With this view the forceps should be enveloped in a cloth, and placed on the floor at the foot of the bed." We can, indeed, conceive the case of some of these young French accoucheurs, to whom this advice is addressed, being hereafter not only very desirous of concealing that they were about to employ this instrument, but also of *preventing its being known that they had done so.* In England, we believe, that no lecturer would recommend, or any practitioner attempt, to employ this, or any other surgical instrument, independently of the patient's entire knowledge of the object in view, and free consent to the endeavour at its accomplishment.

In another point also we cordially agree with Dr. Bedford, namely, his recommendation of the more frequent employment of the *manakin.* The majority of lecturers and great body of pupils neglect this far too much; for, although the most valuable lesson that can be taught the pupil is a full reliance upon the great powers of Nature, and the impropriety of hastily interfering with her proceedings, yet the acquisition of sufficient

dexterity for the employment of interference when it is necessary is of scarcely less importance. Nay, its possession is available in even the common routine of midwifery operations; and many imaginary difficulties in the extraction of the placenta (some of which are recorded as rare cases) have arisen from the untaught clumsiness of the operator.

"I cannot too strongly impress upon the pupil the value of this machine. To become a dextrous and safe obstetric operator, two things are necessary, and they are so essentially material that, if they be neglected, failure must often be the result. In the first place, the accoucheur should have a clear perception of the principles on which rests the mechanism of natural labour. And, secondly, he should reduce those principles to practice on the manakin. The manakin is as important to the obstetrician as the cadaver to the surgical operative surgeon; and if practitioners could be made to appreciate the benefits to be derived from practising on it, much good would necessarily result to those who, in their hour of peril, need not only the sympathy, but the consummate skill of their medical attendant." 320.

The author makes no allusion whatever to the lever or tractor.

I. Traité complet de l'Hypochondrie. Par *J. L. Brachet.* (Ouvrage Couronné par l'Academie Royale de Medecine. Octavo, pp. 736. Paris and Lyon, 1844. Baillière.

II. Traité Philosophique de Medecine Pratique. Par *A. N. Gendrin*, D.M. Tome III. Octavo, pp. 675. Paris, 1843. Baillière.

The name of *Brachet* deservedly stands very high in the present medical literature of France. It is now upwards of twenty years since he published an Essay on Hydrochephalitis; and, since that time, he has produced several esteemed works on various professional subjects—Memoirs on the Use of Opium in certain Inflammatory Diseases, and on Asthenia; Statistical Researches on the relative Numbers of Marriages and Deaths; an Elaborate Inquiry into the Functions of the Ganglionic System (1837); and a Practical Treatise on the Convulsions of Infancy. We are not therefore surprised that he has been the successful competitor for the prize offered by the Royal Academy of Medicine of France for the best memoir on the subject of Hypochondriasis. It is indeed a most elaborate and able work, and cannot fail to be recognised as a standard Treatise on the disease which it undertakes to describe. Dr. *Brachet* is a man of a calm reflecting mind, free from prejudices, and not under the dominion of any favourite doctrine. He does not profess to suggest any original views, or to propound any new theory, on a question that has vexed the ingenuity of medical speculators in every age; but he has applied himself to a much more useful subject, that of discussing the theories of others, collating and comparing them, one with another, and separating the results of actual observation from the delusive dreams of the imagination. His remarks throughout bear the impress of one who has seen much and read not a

little; who has studied Nature for himself, but who has not neglected to make himself acquainted at the same time with the opinions of others, and more especially of the leading physicians of former times. Independently therefore of its own intrinsic merits, this work of our author deserves particular notice on another account;—inasmuch as it (and, we may add, that of M. Gendrin also) emphatically indicates a change in the spirit of medical literature that has sprung up of recent years, not only in France, but also in our own country. Every one must have observed that there is a gradually increasing attention paid to the consultation and study of the writings of the old physicians, and that medical men, now-a-days, are not exclusively and altogether occupied with the plausible, but often most erroneous, explanations which have been given of the origin and treatment of maladies, since the beginning of the present century.

Something more, it is now generally acknowledged, is required for the skilful management of disease, than a mere notation of the symptoms during life, and a knowledge of the appearances discoverable on dissection. The practitioner must learn to take a broad and comprehensive view of the various agents and influences which may have led to the development of existing diseases, and seek to appreciate the multitudinous, and often secret, circumstances that very materially modify their type as well as their duration and event. Now, there is not a member of the whole nosological catalogue, to which this remark is more truly applicable than that of Hypochondriasis; and it has been from the neglect of the precept here suggested that so many and so conflicting opinions have been held at different times as to its nature and mode of treatment. Our predecessors acted more wisely in this respect than we of late years have done. How frequent are the allusions in their writings to the modifying and often perverting influences of climate, season, locality, and so forth, on epidemic and other diseases! The whole book of Hippocrates *de aere, aquis et locis* is full of them; and we find Celsus expressly saying, *aliud opus esse Romæ, aliud in Egypto, aliud in Galliâ.* Baglivi knew well the truth and importance of this, when he penned the simple but emphatic words: *Scribo in aere Romano.*

It is far from being an unprofitable labour, to study the literary history of a disease, and to collate and compare the writings of various authors in different ages and climates upon it. For, however fanciful and erroneous their theories respecting its origin and essence may be, there is always some good to be obtained from knowing the sentiments of observing and experienced men on such professional topics as are of a practical nature. It is for this reason that we propose, in the present article, to confine ourselves chiefly to that section of M. *Brachet's* work which gives an historical sketch of Hypochondriasis, derived from the writings of the most celebrated physicians, from the earliest times down to the present age. As a matter of course we begin with the Father of Medicine himself.

In his second book, *De Morbis*, Hippocrates obviously describes, in the following terms, the most prominent symptoms of Hypochondriasis, under the names of *morbus dessicatorious*, and *morbus ructuosus.*

. . . . *Neque sine cibo esse, neque cibum acceptum tolerare potest, Verum ubi quidem sine cibo manet, viscera sugunt, os ventriculi dolet, et aliàs alia vomit, et bilem, et salivam et acria; et postquam vomuit aliquantisper,*

melius habere se videtur. At, ubi cibum accepit, ructus adsunt, et cum rubore exardescit, et semper multum se cacaturum esse putat. Ubi vero ea gratia desederit, flatus prodit et dolor caput habet, totum corpus velut aciculis pungi videtur, alias alia parte, et cura gravia sunt ac debilia, et consumitur ac debilis fit. Huic medicamentum bibendum dato, primum deorsum purgans, posteà superne, et caput purgato, et a cibis abstineat dulcibus ac oleosis et pinguibus, et ab ebrietatibus. Vomat autem a succis et a cibis, et pro anni tempore lac aut serum assininum bibendum præbens; pharmacum insuper bibendum dato; utro tandem magis opus esse tibi visum fuerit. Æstate et vere frigida lavet. Autumno autem et hyeme unguento utatur, et deambulet, et modice se exerceat. Si vero debilior sit quam ut exerceri possit, iter faciat. Et cibis frigidis ac alvum solventibus utatur. Et, si si venter non egerat, molle infusum per clysterem injiceto. Morbus hic diuturnus est; et consenescentes, si ita futurum est, relinquit. Siu minus, commoritur. In a subsequent passage in the same book, we find an emphatic allusion to the despondency and mental disquietude which so generally attend gastric and intestinal derangements: . . . . *Anxietudo ipsum invadit, lucem et homines refugit, tenebras amat, metus corripit, septum transversum exteriore parte intumescit, ad contactum dolet, expavescit, terriculamenta et formidanda cernit.* From these extracts it is abundantly obvious how well acquainted the old Coan was with the disease itself, if not with the name which was afterwards (from a mistaken theory) bestowed upon it. It has been generally alleged that Hippocrates attributed the symptoms of Hypochondriasis to the presence of *atrabilis* in the system. This, however, seems to be a mistake; for there is not even a hint as to the *cause* of the malady in the passages from which we have quoted; and it is only in a subsequent part of his writings that he treats of Hepatitis and other diseases of the liver, that we find an allusion to this supposititious humour.

Before proceeding with our selection of extracts, it is right to mention that M. *Brachet* groups and classifies the various authors, whom he quotes under four heads, according as they have placed the seat of Hypochondriasis in—1, the Humours of the Body; 2, the Abdominal Viscera; 3, the Organic Nervous System; or 4, the Brain, and its attributes. Although objections may be very reasonably taken to this quarternary division,—inasmuch as many of the authors quoted have not held the single and exclusive doctrine imputed to them—we shall adhere for convenience' sake, to it, with one or two exceptions.

Galen—who is generally regarded as the founder of Humorism, in consequence of the great extension which he gave to its principles—did not fail to apply this doctrine to the explanation of the phenomena of Hypochondriasis. He attributed the disease to the blood becoming thick and viscid, and to the existence of *atrabilis* in the system. At the same time, he seems to have placed the actual seat of the malady—at least at its commencement—*in* and *around* the stomach;—*cum igitur*, says he, *circa ventriculum inceperint accidentia, hypochondriacum flatuosumque morbum nominabimus.* The description which he gives of it, is both longer and more lucid than had been given before his time. The Galenic view of the disease continued, with occasional modifications, to be the predominant one in the schools of medicine up to the epoch of the revival of letters. During this long period, the greater number of medical writers regarded the Liver

and Spleen as the *foci*, whence arose those pernicious vapours which were considered as the proximate cause of all the hypochondriac's troubles.

Ætius pushed the humoral doctrine of the disease as far as possible; nevertheless, he did not fail to observe that the earliest symptoms of the morbid process had their origin in the brain. He supposed that the entire mass of the blood remained in a healthy condition, save and except that portion which is present in the brain: *Alio tempore, sanguine in toto homine illæso permanente, is, qui juxta solum cerebrum est, alteratus;* and that a humoral vapour arose from the stomach to the head, the communication between the two being maintained by means of the pneumogastric nerves.

According to Avicenna also, the morbific matter which produces the disease, proceeds from the stomach and liver; the deranged state of which organs was regarded by him to be the primary and essential cause of all its phenomena.

Sennertus held a somewhat similar opinion; but he carried his views farther; for he maintained that the blood became corrupted by the unwholesome chyle that was generated in the digestive viscera, in consequence of the disorder of their functions. His definition of the disease is as follows: *Colluvies vitiosorum humorum, imprimis melancholicorum, sæpe etiam pituitorum et biliosorum in venæ portæ et arteriæ cœliacæ ac mesentericæ ramis, in hypochondriis, præcipuè sinistro, inter ventriculum et lienem, maxime iis locis ubi plures majoresque venæ portæ et arteriæ huic conjunctæ sunt.* The humorism of Sennertus is altogether more physiologically reasoned and argued than that of his predecessors.

The opinion of Vieussens coincided very nearly with that of Sennertus. Sometimes he made the disease depend upon an impure state of the blood; at other times upon obstructions of the bowels by vitiated chyle. But it was always some disordered state of the chylopoietic viscera that was viewed by him as the primary cause, and that which induced the unhealthy and corrupted state of the humours of the body.

In 1670, a sharp discussion took place between Willis—who, we shall afterwards find, was a zealous advocate of the nervous theory of Hypochondriasis—and Highmore, who followed in the wake of those authors we have been mentioning. In the reply of the latter to the former, we read, among the causes of Hypochondriasis, of the fibres of the stomach being feeble and relaxed; the digestion difficult and imperfect; and the chyle being badly elaborated, and mixing too soon with the blood, which becomes in consequence acrid and hot. The residue of the digestion, he says, remains too long in the stomach, and there it degenerates into a viscid phlegm, which subsequently ferments. The blood, also, being too fluid and flatulent, has a tendency to accumulate in the lungs and heart, and in these organs experiences a sort of effervescence which impedes the free play of their functions, and the easy descent of the diaphragm.

Lange supposed that the *materies* of the disease was a ferment generated in the spleen, and giving out a melancholic vapour, which was conveyed by the nerves to the stomach and other viscera. Stahl, in spite of his vitalism, attached so important an office to the vena portæ and its contained blood, that he may be classed at present among the humorists, more especially among those who had themselves dwelt much in their etiological reasonings on the portal circulation, and who had designated

this vessel, in consequence of the ills of which they supposed it was the vehicle, *vena portarum, porta malorum.* According to him, hypochondriasis consists in the congestion and irregular circulation of an over-viscid blood in this vein, and in the efforts which the vessel makes to rid itself of its superabundant contents. The windy atony he supposed to be the accidental cause of the symptoms—which are in part also attributable to the distention, or, as it used to be called, the *infarctus* of the meseraic and splenic vessels by the statis of the blood within their cavities, and to the efforts of Nature to relieve herself of this partial obstruction. The opinion of Stahl, somewhat modified, was adopted by a great many writers. Thus we find that Perry imagined that the chief cause of hypochondriacal ailments is a thick, viscid, and melancholic state of the blood, which flows too languidly in the minute capillaries of the abdominal viscera. In consequence of this sluggishness of the circulation, the course of the animal spirits—the medium by which the soul and body were supposed to act and re-act upon each other—is more or less completely intercepted in the hypochondria, &c.—the necessary consequence of which is, that the mental energies themselves are feebly and irregularly exercised.

Boerhaave, always influenced by his mechanical theories, introduced them largely into all his etiological speculations respecting hypochondriacal ailments. After admitting that, in some persons, the nervous system is unusually mobile and irritable, and that the nervous fluids are very easily disturbed, he supposes that a *cacochymia* of the blood is produced by the separation of its most fluid parts, giving rise to what he with the old writers calls *atrabilis.*

This fluid collects and accumulates in the abdominal viscera, becoming there more and more viscid and thick: *magis densa, tenax, immobilis reddita; inde sensim hic hærebit, accumulabitur, stagnabit; lienem, ventriculum, pancreas, omentum, mesenterium obsidens.* This is the Hypochondriasis *cum materia:* it was said to be *sine materiâ,* when the symptoms depend altogether on the exalted mobility of the nervous system in the hypochondria, and when they leave behind them no trace of pathological alteration.

The therapeutic precept, with which Etmuller closes his remarks on this disease, briefly but expressively announces his etiological opinions: *cura ventriculum, et curasti hypochondriacum malum.* Riviere, although he classed hypochondriasis among the diseases of the spleen, attaches great importance to the operation of vitiated humours in the system: *Licet omnes partes,* says he, *hypochondriam constituentes in hoc morbo afficiuntur, lien tamen pars affecta præcipue censetur, cùm sit humoris melancholici receptaculum, ut non ineptè inter morbos lienis collocari valeat.* * * * * *Fit igitur affectio a melancholiâ præternaturali, quæ atrabilis nominatur, et ex aliis humoribus exustis et torrefactis generatur, præcique sanguine, aut bili, aut melancholiâ naturali.*

Purcell, Silvius, Pitcairn, Mandeville, &c.—all took nearly the same view of the question, attributing the disease to a certain vitiation of the blood induced by the presence of acid and other crudities, generated within the stomach, in consequence of an unhealthy and cacochymic digestion. The second of these writers very judiciously remarks: *non male conjici*

posse videtur sedem focumque hujus mali esse, si non ipsum ventriculum, ventriculo saltem vicinas partes.

Stoll was the first who thought that a gouty humour had much to do with its production. Ludwig, although he classes hypochondriasis among the diseases of the lymphatico-serous system, traces back its remote cause to visceral disorder: *prima itaque hujus morbi semina in visceribus abdominalibus latent, postquam nimirum viscidus, salsus et crudus victus, inordinatè sæpius sumptus, una viis primis satis, elaboratus.* Soon the blood begins to circulate more sluggishly in the vena portæ: *et infarctus varii connexum systema nervorum, paris vagi et intercostalis, ad spasmos deducunt, qui in abdomine quidem potissimum, sed et per concensum in aliis corporis partibus observantur.*

About the commencement of the 17th century, a very notable change began to be introduced by the chemical physicians into the humoral pathology of hypochondriasis, as well as of many other diseases. Instead of *atrabilis* and corrupted humours and ferments being present in the system, we now read of nothing but of salts of tartar, acids, and alkalis predominating in the fluids. These foreign materials, generated by some process of fermentation or otherwise, and combined in various proportions, were believed to be the true *materies morbi* on most occasions.

It would much exceed the limits of the present article, if we attempted to follow out this part of our subject; but we cannot dismiss the humoral doctrines, to which we have alluded, without remarking that, however fanciful and absurd many of their positions are, the wise physician will not reject them entirely and without examination, more especially as there is an obvious tendency in the present day to the adoption of a modified Humorism. "Yes, without doubt," says our enlightened author, "the humours take and must take an active part in the production of various diseases. That is a truth which we firmly maintain. The difficulty is to explain how and in what manner they operate. Certain it is that none of those humoral principles, about which so much has been said, are cognizable by our senses; and indeed it is this very absence of actual proof that has given rise to the innumerable shades and varieties of pure Galenism. The foundation of the theory may be true; but the superstructure has generally been most visionary and ideal. Hence the absurdities of ferments, acrimonies, putrid and alkaline emanations, *atrabilis*, and all that host of crude and undigested humours, which have been supposed to be generated within the system."

We proceed now to notice a few of the most prominent authorities in favour of that doctrine which places the seat of hypochondriasis in some of the abdominal viscera—exclusively and independently of any alteration in the humours of the body.

The first writer we name in this list is Diocles of Carystos, whose description of the disease has been preserved to us by Galen.

Oritur alius à ventriculo morbus, qui ab aliis melancholicus, ab aliis flatulosus, nominatur, quem, sumpto cibo maximè coctu difficili et caustico, sputum humidum idemque multum comitatur; item ructus acidissimi, flatus æstus in hypochondriis; fluctuatio non illico, sed cum retinuerint; interdum ventriculi quoque vehementes dolores, qui nonnullis ad dorsum usque procedunt; concoctis deinde cibis, quiescunt. Mox aliis cibis ingestis eadem revertuntur

accidentia, quæ interdum jejunos, interdum etiam à cœna, molestant; atque evomunt crudos cibos et phlegmata subamara et calida adèo ut dentes torpedine afficiantur; flatuosas vocant affectiones. Suspicandum est plus caloris quam decet habere in venis quæ alimentum à ventriculo excipiunt, sanguinemque in ipsis crassiorem factum. Quippe constat has venas obstructas esse vel hoc argumento quod alimentum corpori non distribuitur; sed ventriculo manet incoctum, cum ipsum meatus priùs susciperent, magnamque ipsius partem in crassum ventrem excernant, tum quod postero die vomitu rejiciatur utpote non digestus per corpus cibus, et quod calor, id quod secundum naturam est, excedat facile intelliges, tum ab æstu qui ipsis accidit, tum ab his quæ ingeruntur. Si quidem juvari videntur à refrigirantibus cibis qui videlicet calorem refrigerare extinguereque solent. He subsequently remarks: *aiunt nonnulli os ventriculi, quod intestinis continuatur, ex hujusmodi passionibus inflammari, ac, ob inflammationem ipsam, et obstrui et prohibere ne alimenta statuto tempore ad intestina descendant.*

We are somewhat puzzled to understand how our worthy author, Dr. *Brachet*, after quoting this extract, should follow it up by saying: "These two observers (Hippocrates and Diocles) have confined themselves to enumerate the phenomena of the disease, without proposing any interpretation. Thus their descriptions always remain faithful and true to Nature, because they are not vitiated by the exigencies of a false theory." How are we to reconcile this praise, in the case of Diocles, with the obstruction of the veins of the stomach and the thickened and heated state of the blood in them of which we read, and to which the disease is ascribed?

Paulus of Egina considered Hypochondriasis to be the result of a burning heat, (for the word Φλεγμασις, which he uses, does not mean *inflammatio* in its modern medical sense,) in the præcordial region, giving rise to a vapour which rose up to the brain: *tertia melancholiæ species est quam flatuosam et hypochondriacam, id est, præcordialem nominant, ex inflammatione præcordiorum circa stomachum obortâ, quæ aliquando auram quamdam pravam, et ad cerebrum, transmittunt.*

Paul Zacchias has expressed the same opinion in these words:—*Affectio hypochondriaca, quantum mihi videtur, nil aliud est quam calor naturalis hypochondriorum, unius vel scilicet plurium in ipsis contentarum partium, in calorem non naturalem, extraneum, et insolitum conversus.**

Forestus speaks of a *contumax imbecillitas ventriculi* as the most frequent cause of hypochondriasis. Baillon seems to have been much puzzled what to make of the pathology of the disease, and is more candid in his confessions than most writer; for he frankly admits his inability to determine the truth:—*Multi melancholiæ*, says he, *hypochondriacæ meminerunt, et hujus morbi nomen crebro usurpatum est; sed quid significet, quis locus affectus, cur ita appellatur, cùm non sit necesse melancholicum humorem in vitio esse, an intemperies sola sit, an morbus in conformatione, nondum satis definitum est.* When such a practitioner as Baillon writes thus, it should be an admonition to others not to be so hasty in solving the disputed question.

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* The Arabian physicians, almost all of whom placed the seat of Hypochondriasis in the abdominal viscera, gave the disease the name of *Morbus Mirichialis*—from *mirach*, which signifies abdomen, epiploon, or mesentery.

Mead regarded Hypochondriasis as a disorder, not of any one part of the body, but of the whole system. He however referred its origin chiefly to some morbid state of the abdominal viscera;—either of the stomach and bowels, or of the liver, or of the spleen and pancreas, or of the mesentery.

Prost, in his remarkable work entitled *La Medecine Eclairée l'Ouverture des Corps*, laid the foundation of the gastritic doctrine which Broussais afterwards reproduced with so much eclat. After discussing the general pathology of nervous diseases, he thus expresses himself on the subject of Hypochondriasis. "This disease results from a change in the susceptibility of the nerves of the intestines, produced and kept up by a certain development of the arterial system in their mucous membrane; this disposition is accompanied by a more or less exalted degree of vitality in all the viscera of the abdomen." He subsequently repeats his belief, on more than one occasion, that this malady is owing to an increased susceptibility of the intestinal nerves and to their consequent re-action upon the Brain. Let us now hear what Broussais himself says upon the subject. In his celebrated Examen we find the following passage: "*Veritable causes of Hypochondriasis:* The irritation of the chylopoietic viscera, even when the primary cause of the disease has been entirely of a moral nature, is that which opens the scene. It is this morbid state which by its influence depraves the intellectual functions, and gives rise to the host of pains, convulsions, and secretional changes, that are always present in a greater or less degree, and which if not counteracted by appropriate remedies, gradually bring on a disorganisation of the viscera in which it is fixed, or so exhausts the vital energies as to bring on a fatal termination. Let your attention therefore be riveted on the great phenomenon of irritation of the stomach; and since it is this morbid state which causes all the suffering, engorgement, disorganisation, and also the convulsions and delirium, learn to subordinate every thing else to it." In a former part of the same work, he pithily defines Hypochondriasis to be "the effect of a chronic gastro-enteritis, that acts with energy on a brain predisposed to irritation." This doctrine, which for a good many years held almost undisputed sway in the French schools, is now fast disappearing from medical literature. Dr. *Brachet* is too enlightened an observer to be misled by its apparent simplicity. He objects to it on the two-fold ground, 1, That the local affection of the stomach, although it may be the determining cause of the disease, does not constitute it; for it cannot by itself produce a very important part of the phenomena of the disease, viz: the disorder of the intellectual energies; and 2, That, even although a gastric lesion be present in all hypochondriacal patients, this lesion is not necessarily, nor even frequently, of a genuinely inflammatory nature. M. *Georget* has clearly established these two points beyond all reasonable doubt; and subsequently M. *Barras* in his excellent *Traité sur les Gastralgies et les Enteralgies*, has struck the last blow at the already tottering fabric of *gastritism*. To do however mere justice to *Broussais*, we should remember, says our candid author, that in spite of all his predilections for a particular doctrine, he did not fail to recognise the necessity of the participation of the brain and of an indispensable anterior predisposition, in the pathological history of hypochondriacal diseases.

Before quitting this section of our subject, we gladly avail ourselves of the present opportunity to introduce the following remarks from the pen of *Cabanis* on the influence of the state of the abdominal viscera on the manifestation of the mental phenomena.

"It is notorious," says that acute writer, "that in certain conditions of the internal organs, especially of the viscera of the abdomen, our faculties of perception and thought are always more or less influenced. The diseases of these parts change, disturb, and sometimes even entirely subvert, the habitual order of the sentiments and ideas. Extraordinary and bizarre appetites are developed; strange and hitherto unknown images present themselves to the imagination; new affections lay hold of the will; and (what is still more remarkable) the mind often acquires more energy and elevation, and the heart is influenced by better and more affectionate feelings than it was heretofore. It is apparent therefore that much depends on the condition of certain viscera of the abdomen and the manner in which impressions act upon them, whether our ideas be bright or gloomy, and our feelings be kindly or the reverse. * * * * * * * * * Since the state of the abdominal viscera may entirely invert the order of the sentiments and thoughts, we cannot be surprised that diseases of these organs may induce insanity, &c."

Remarks full of truthfulness and force!

We come now to notice briefly those authors—at least some of the most celebrated—who have considered Hypochondriasis to be a disease, primarily and essentially, of the general or organic nervous system, and who have therefore classed it among the Neuroses.

Willis is the first who distinctly and categorically announced this opinion. The nature of his studies, and the important office which he ascribed to the nerves in the performance of the functions of the body, and in the production of diseases, naturally led him to adopt this view of the case. He however mixed up some of the humoral notions of the day with his own particular doctrine; for we find him maintaining that the "point de depart" of the malady was in the Spleen, and that it was from this viscus that there arose certain morbific vapours which served to excite the spasms and contractions of the affected nerves: *Omnino a liene produci, quare ut plurimum vaporibus ab hoc viscere elevatis, et huc illue varie discurrentibus ut sint partium nervosarum spasmi et contractiones.* The vitiated qualities, which the blood was supposed to acquire in the spleen, were the alleged cause of the explosion of the spirits *in cerebrum, indeque in genus nervosum.*

Sydenham adopted, with certain modifications, the opinion of Willis. In his language, Hypochondriasis is an *ataxia* (disorder or irregularity) of the animal spirits, which he believed to circulate within the nerves.—*Pendent ergo*, says he, *affectiones istæ, quas in fœminis Hystericas, in maribus Hypochondriacas insignire libet, (quantum ego judico) a spirituum animalium ατακτια, unde facto impetu in hanc illamve partem plus quam pro rata densi nimiique feruntur, spasmos uti et dolorem excitantes ubi in partes sensu exquisito præditas irruunt, atque organorum, tum ejus in quod se ingerunt, tum istius a quo abscedunt, functiones pervententes; cum utrumque ab hac tam iniquâ partitione, quæ Naturæ oeconomiæ penitus adversatur haud parum detrimenti capiat.* He combats the opinion that the disease has any necessary connexion with an alteration of the fluids, or with a morbid condition of any of the abdominal viscera. So decided was his opinion that the

malady was purely nervous, that he regarded it as only one of the many forms of hysteria, and he described both maladies under the common appellation of the *vapours*—"a circumstance," says Dr. Brachet, "that we could not well account for, if we did not know that Hypochondriasis is so common in England that it is almost always associated with the hysterical affections of women."

The authority of Sydenham was long so great among medical men of all countries that his opinion was adopted by very many subsequent writers, some of whom carried their fancies respecting the course of the animal spirits, their stagnation, accumulation, obstruction, and explosion, to a still more extravagant length. Thus, for example, Gorter says: "The proximate cause of Hypochondriasis appears to be a crude and acrid matter, which is thrown upon the nervous parts. This foreign matter, we may presume, becomes arrested in the capsule of the nerves, especially of those of the mesentery, stomach, spleen, and other viscera of the abdomen, whence it rises to the lungs, throat, and head."

Few writers have so frequently mentioned the disease of Hypochondriasis in their writings as Hoffmann; and this is probably the reason why his statements in different passages are not always consistent with each other. In one part he uses these words: *Radix mali hypochondriaci in ventriculo male affecto fixa est, in quo spasmi incipiunt, postea per propagines nervorum successivè serpunt, et consueta illa symptomata ingenerant.* Subsequently he places the seat of the disease in the nervous system: *Non ultimum inter morbos generis nervosi spasmodicos vindicat cibilocum passio sic dicta hypochondriaca;* and he defines it thus: *Est illa, si realem spectemus ideam, affectus primarum viarum, nominatim ventriculi ac intestinorum, spasmodicus flatulentus, ab inverso ac perverso illorum motu peristaltico natales suos mutuans; per consensum vero totum nervosarum partium systema in irregulares motus conjiciens et totam oeconomiam functionum perturbans.* It seems, therefore, that according to Hoffmann, the primary seat of the malady was in the nervous tunic of the alimentary canal.

The celebrated Lorry entirely adopted the opinion of Sydenham, and even carried it somewhat further than his master did; for he maintained the identity not only of Hypochondriasis and Hysteria, but also of these diseases and Melancholy: *hysterica et hypochondriaca affectio non differt a merâ melancholiâ nerveâ; easdem adhibent divisiones, diagnosim atque prognosim easdem nec ullatenus curatione à se invicem abludunt.*

Whytt, who is generally acknowledged to be one of the ablest writers on the diseases of the nervous system, was of opinion that an over-sensibility and excessive weakness of the general system are the predisposing causes of the disease, which then becomes developed if a morbific humour that is circulating in the blood, or any powerful physical or moral influence, comes to act upon the nerves. An excellent commentary on this view of the subject is contained in the work of Pressavin. "We see," says this writer, "that the disease (he describes it under the name of *vapours*) is the effect of a peculiar idiosyncrasy of the nervous system, which becomes so mobile and sensitive that a very trifling cause is capable of exciting in it the most violent and irregular movements. . . . . The extreme delicacy of the nervous fibre is the sole cause of its excessive mobility and sensibility."

Lieutand expresses himself on the subject in the following terms: "The denomination of this spasmodic flatulent disease is derived from the *hypochondria*, which are supposed to be the chief seat of it. Conjectures, that seem to be well founded, render it probable that the immediate seat of the morbific action is in the veins which go to the formation of the vena portæ. . . . . However this may be, it appears manifest that the disease is purely spasmodic; that the nerves, being highly susceptible of irritation, play an important part in its production: and that the mind is quite as much, and perhaps even more, affected than the body. Hence it has happened that the term *hypochondriacal* has become almost a word of offence which medical men seek to avoid, bestowing the vague name of the *vapours* upon this affection."

Barthez, one of the very ablest professors and writers of the Montpelier School of Medicine, referred most of the symptoms of this as well as of other nervous diseases to some lesion of the Vital Principle. "The entire system of the vital powers," he writes, "is enfeebled by an alteration which has been introduced into the sensorial energies and their influence over the motor powers. When this general change of the vital forces has made great progress, it constitutes the malady known as the *vapours*, or as it is sometimes called, Neuropathy. Although very varied in its phenomena, it should not be confounded either with the hysteric passion, or with hypochondriacal melancholy, or with the nervous state which is limited to the organs of digestion, although each of these different affections may certainly co-exist along with it. . . . . The two elements of nervous diseases are the alteration of the sensory powers—these being either in excess or in defect—and the morbific influence of these on the motor energies."

The most able advocate, among the writers of the present century, of the nervous theory of Hypochondriasis, is unquestionably M. Louyer-Villermay, the title of whose work—*Traité des vapeurs ou maladies nerveuses, et principalment de l'hysterie et de l'hypochondrie*—sufficiently announces the etiological opinions which the author holds. "It is not,' says this very intelligent writer, "in the alteration or morbid lesion of the nervous system itself that the immediate cause of this Neurosis resides, but in an affection of the vital properties of the nerves of Nutrition. Hence it is that we generally recognise, as the seat of Hypochondriasis, the abdominal viscera—the stomach more especially—affected in their nervous system or vital properties, and particularly in their organic sensibility. In truth, we may see the simultaneous and primordial disturbance of all the organs, which serve to constitute the apparatus of digestion. To this disturbance there is added, from sympathy, a consecutive disorder of almost every organ in the economy, and consequently an exaltation of the general sensibility in the first instance; and in the second, a symptomatic affection of the moral and intellectual faculties."

Boisseau, in his *Nosographie Organique*, although he classes Hypochondriasis among the Neuroses, seems to believe that there is very often, if not generally, a sub-inflammation of the stomach present, and also an actual irritation of the encephalon, spinal marrow, and ganglionic system of nerves. "Is the irritation of the stomach," he asks, "inflammatory from the beginning? and is it present in all cases? It is difficult to

answer these questions in a general manner: each patient must be attentively examined to determine the point. In every case, however, the disease terminates by declaring itself an intense chronic gastritis." He goes on to observe: "There cannot be Hypochondriasis without an affection of the brain; but this is often only secondary; for it frequently exists in persons whose reason is deeply affected." M. Roche, in his classic *Elements of Medico-chirurgical Pathology*, takes nearly the same view of the disease in question. According to him, the gastric membrane is the "point de depart" of all the morbid phenomena. Although classifying it among the neuroses of the mucous system, he insists much on the frequency of its supervening upon chronic Gastritis, and on the difficulty often experienced in distinguishing the one malady from the other.

Dr. James Johnson is of opinion that a special morbid sensibility of the digestive organs, more especially of the stomach, is the primary and chief cause of the phenomena of Hypochondriasis. This neurosis of the stomach is regarded as the essential malady, and all the concomitant accidents are viewed only as nervous effects resulting from the sympathetic re-action of the stomach on all the parts of the organism, in virtue of that diffusive property with which this organ is endowed.

Joseph Frank, in reference to this subject, says:—*Ad nos quod spectat, hypochondriasim pro morbo universi systematis nervosi, sese precipuè in gangliis abdominalibus, plexibus cardiacis et cerebro, modo cultro anatomico haud demonstrando, exserente, habemus.*"

According to Hufeland, the proximate cause of the disease is a pathogenic augmentation and anomalous condition of the sensibility of the nervous system, more especially of that of the stomach and other digestive organs; subsequently a re-action, and various new and extraordinary sympathies are developed. Notwithstanding the opinion here expressed, he has rather inconsistently placed it among the Vesaniæ or mental diseases.

Dr. Barras, the author of an admirable work, *Sur les Gastralgies et les Enteralgies*, has given a most accurate description of Hypochondriasis. He regards it as a special neurosis, that is often associated with gastralgia —which it is apt to induce, and of which it is often the consequence.

The nervous affection of the stomach becomes reflected, so to speak, on the encephalon; and this, becoming secondarily affected, gives rise to all the bizarre modifications expressed by the imagination.

As allied in some degree with the Nervous theory of Hypochondriasis, we may here notice the fanciful hypothesis advanced by Revillon in 1786, that this disease is induced by a certain modification of the electric fluid that, according to him, is always present in the animal body. He had been led to adopt this notion from finding in his own person how much the state of his feelings was influenced by the state of the wind and weather. His observations of his own feelings were doubtless quite correct, but his inferences were altogether fallacious; he mistook the *exciting*, for what medical men call the *proximate*, cause of the malady. His description, however, of the influence of the weather on his health is so graphic as to deserve especial notice:

Venti ab oriente aut sicci aut rigidi, sæpius capitis affectiones, nempe oculorum, temporum, verticis, aut gravem aut perstringentem sensum excitare:

solent; ubi alii, a meridie humidi et calidi, plerumque sensus tardant, tristitiam movent, totum corpus efficiunt hebes, languidum; imo pectoris molestias, æstum faciei vaporosum inferebant. Subita et magna ventorum discrimina subitas et magnas in affectiones differentias vehunt. Discrimen temperiei in atmosphera multo magis sensum et motum variat in corpore quorumdam, quam mutet altitudines mercurii in barometro et thermometro.

The comments of Dr. Brachet, on the nervous theories which we have rapidly reviewed, are contained in the following passage:—

"The doctrine, that views Hypochondriasis as a purely nervous affection, certainly approaches the truth more nearly than the opinions which we have hitherto examined. In truth all, or nearly all, the phenomena observed in the thorax, heart, stomach, and other viscera of the abdomen, during the course of this variable disease, are fairly attributable to some disturbance of the function of innervation. Most of the facts, which we have collected together, may be adduced in favour of this view of the question. As a matter of course, we make no account of the various speculations, held at different times, respecting the animal or vital spirits, the nervous fluid, ethereal principles, and so forth; all such fancies may be entirely kept out of view in our present inquiry. * * *

"The main defect of the nervous doctrine as to the cause of Hypochondriasis is, that it omits to account for a very material part of the phenomena of the disease; those namely which relate to the imagination, and its organ, the encephalon. * * * * The facts and reasonings adduced by M. Villermay, to claim for the nervous system the sole and exclusive prerogative of being the seat of the disease, are certainly not satisfactory; and it only requires to analyze them with attention to find weapons against his favourite doctrine. Simultaneously with the physiological lesion of the (organic) nervous system, there is almost always a not less important and constant lesion of the imagination and its organ. In most of the instances quoted by this gentleman, the cause acted directly upon the mind; in other words, it was of a moral, rather than of a physical, nature; not that we are prepared to maintain with certain writers (of whom we shall speak presently) that the primary and immediate seat of Hypochondriasis is always in the cerebrum. To this opinion we cannot assent. Often, very often, we see a patient, who is oppressed with grief, have no concern or apprehension whatsoever about the state of his health; it is the very last of his thoughts; and death indeed would be a relief to him. * * * * * Although the primary cause may act on the encephalon and its attributes, it is not by any direct or immediate operation on this organ that the disease of Hypochondriasis is induced. It first re-acts on the stomach and general nervous system, the mobility of which is excited and disturbed. It is to this nervous disturbance that the real and direct cause of the malady is to be traced."

But we must not anticipate too much; and therefore, before we say more on this subject, it will be right to draw the attention of the reader to a few of the authorities on the cerebral or mental side of the question.

Hippocrates, as we have already seen, alluded very emphatically to the existence of certain mental phenomena as constituting an essential part of the symptoms of Hypochondriasis; but he wisely abstained from fixing the seat of the disease in the brain, or indeed in any other part. Carolus Piso, or, as he is sometimes called, C. Lepois, was the first who distinctly advocated the cerebral pathology of the disease. "We believe," says he, "that all the symptoms falsely attributed to the stomach, uterus, and other organs, proceed from the head. It is this part, affected not in a sympathetic but in an idiopathic manner, that produces all the morbid move-

ments felt over the entire body." This author imagined the existence of a *colluvies serosa juxta nervorum origines congesta*, to which he attributed the chief phenomena, both of hypochondriacal and of hysterical affections. Sauvage placed Hypochondriasis in the class of the Vesaniæ, or mental disorders. "This hallucination," he remarks, "proceeds from the over great attention of the mind to the preservation of the body, from the excessive love which we have for ourselves, and the nervous susceptibility thereby induced." Klockoff attributes the disease to the *tenor infirmatus medullæ cerebri*. Cullen classes it among the *adynamiæ*, the second order of his Neuroses; he ascribes the languor and depression of the spirits to an atony of the *sensorium*. Linnæus has placed it among mental disorders; and Pinel has done the same, denominating it a neurosis of the cerebral functions. He however qualifies this opinion by telling us afterwards that "anatomical dissections have shown that this malady is sometimes fomented by certain lesions of the abdominal viscera. * * Often, too, the evil depends upon a lesion of the functions of the nervous system, of which however there may remain no appreciable trace on dissection." Within the last 15 years, the cerebral or mental doctrine of Hypochondriasis has been warmly espoused by some clever writers in France, more especially by MM. Georget, Falret, and Dubois. These gentlemen maintain that the 'premier role' always belongs to the brain; that the 'point de depart' is always to be found in this organ; and that all the other phenomena are nothing but the effects of its re-action on the various organs of the body and their functions. Hence it has been proposed by them to designate the disease by the name of *Cerebropathy*, or *Encephalopathy*. The main arguments, adduced in favour of this doctrine, are—1, that the inducing cause of the malady is very frequently of a moral or intellectual nature; as, for example, profound grief, excessive study, and so-forth; and, 2d, that the leading phenomena are purely nervous and obviously very much under the influence of the brain, the centre of this system.

Let us hear what M. Brachet says on this matter.

"From a careful examination of all the facts and reasonings adduced by these gentlemen, we have no hesitation in expressing our opinion that the cerebral or mental theory of Hypochondriasis is not tenable in all its positions. It is quite right, in so far as it ascribes no little influence to the brain and its functions in the production of the disease; for, in truth, this malady cannot exist, if the encephalon be quite exempt from suffering or disturbance. Still it is perfectly true that neither does the morbid state in all cases commence with the brain, nor that the cerebral affection, in itself and essentially, constitutes it. The cause of the error, into which MM. Georget and Falret have fallen, arises from the circumstance that these distinguished physicians have been specially occupied with the study of insanity, and with observation of insane patients; perhaps also from the known fact that Constitutional Hypochondriasis, which is almost always incurable, and is very different from the simple and accidental form of the disease, often exhibits the features of genuine Mania. If they had studied the malady in ordinary private practice, and not in the wards of a lunatic hospital or asylum, they would assuredly have modified their opinions. It must be only from allowing his mind to be occupied with a single train of ideas, to the exclusion of every other, that so acute an observer as M. Dubois could have carried his opinion so far as to assert that 'in the commencement of Hypochon-

driasis there is nothing material or organic or real, and that the only lesion is that of the understanding.'"

We have thus taken a rapid review of the most remarkable opinions that have been held by medical men of different ages, climates, and countries, respecting the nature, seat, or proximate cause of hypochondriacal disease. The diversity and discrepancy of these opinions may be traced to the besetting sin of professional writers, that of confining their vision to one part only of a subject, to the exclusion of every other: hence it is that they magnify and exaggerate one fact or object, and neglect and disparage all the rest. Now what is the real and simple truth? M. Brachet will tell us:—

"It is quite true," says he, "that the functions of the stomach, liver, spleen, heart, &c, are more or less disturbed; that the digestion is usually much deranged; that an unhealthy chyle may be formed and supplied to the circulating fluids; that the nerves are deeply affected; and, finally, that the brain and the imagination are truly and essentially implicated. All this exists in Hypochondriasis; there cannot be a doubt about the matter. But not one of these things taken singly, and apart from the rest, constitutes the disease in question. Every author, we verily believe, has truly seen what he has described; but his mind, biassed either by the direction of his studies, or by the tone of the ruling doctrines of his day, has adopted one train of thought to the more or less complete exclusion of every other. Thus the opinions as to the nature and seat of Hypochondriasis have been *humoral* during the long reign of Humorism; *organic*, when Solidism was dominant; *nervous*, when so much importance was attached to the physiology of the nerves; and at length *cerebral*, in the eyes of those men whose special attention has been engaged more particularly in the study of mental disorders. Now each and all of these doctrines are true; at least partially so. The error lies only in their generalization, in the attempt to reduce to a narrow spot phenomena whose sphere of exhibition is a wide circle. Not one of the theories that has been broached, however absurd and ridiculous it may now seem, was entirely destitute of considerable probability; and for this reason—because they were all based on a series of observed facts and phenomena. It was only the extravagant extension, which was sought to be given to it, that rendered the opinion faulty, by making it too exclusive. It is to the multiplicity of opinions deduced from similar facts that *Galen* alluded to, when he said that in our economy there is nothing absolute, rigorous, and necessary, and that the same cause may produce different effects on different individuals: *Nihil in corpore animato planè est.*"

Having now sufficiently considered the much-vexed question as to the cause of Hypochondriasis, we proceed to a more satisfactory and important topic, that of its treatment. Fortunately on this point there is far less discrepancy and dissension:

Concidunt venti, fugiuntque nubes,
Et minax . . . . . ponto
Unda recumbit.

Hippocrates has not said much respecting treatment. From various passages of his writings we are led to infer that he recommended an occasional emetic, the moderate use of purgatives, along with a temperate diet and regular exercise. Celsus advises residence in the country, travelling about, gymnastic games—especially playing at ball and fencing—reading aloud, bathing, and friction after it—temperance in, but not abstinence from, venereal pleasures: *concubitus vero neque nimis concupis-*

cendus, neque nimis pertimescendus est: rarus excitat corpus, frequens vero solvit. Cælius Aurelianus insists chiefly on the necessity of amusing the mind and distracting it from its gloomy apprehensions. He lays down very particular rules; and even descends to mention the trifling circumstance of whitening the patient's chamber, to excite more cheerful feelings. He reprobates the use of strong medicines: *Vitandam probamus frequentem et variam medicaminum potationem, quæ fella deducere prœmittuntur, sive ventris fluxus, sive urinalia. Etenim sitis extenditur, et solidioris cibi fastidium duplicatur, et corporis fortitudo minuitur; atque cibi accepti corrumpuntur, et omnis corporis materia adulterio medicaminum deterior fit, cùm habitudo omnis fuerit immutata, quod facere videmus eos qui sæpissime ac jugiter absynthiam, aloem, et colocynthidem dari probaverunt.*

No writer, whether of ancient or of modern times, has discoursed more sagely on the treatment of Hypochondriasis than Galen. Fortunately, his therapeutics are not built upon, or deduced from, his humoral opinions; he rises above the spirit of system, and is at once practical and philosophical. His principal remedies were frequent baths, a juicy and nutritious diet, and all sorts of active exercise, *quæ non modo totum corpus exercent, verum etiam animum oblectare possint.* It was only in obstinate cases that he had recourse to purgatives and other evacuants to discharge the *atrabilis*, which was supposed by him to play so important a part in the induction of the malady.

Passing over the practice of Aretæus, Paulus Ægineta, and Ætius, for they seem to have suggested nothing new, we come to the epoch of the Arabian physicians, who besides being indefatigable commentators of the writings of Hippocrates and Galen, introduced that host of polypharmic formulæ, known under the names of *elixirs, electuaries, pills, powders, troches, loochs, hiera, &c.* Many of their antispasmodic and other remedies are, although simplified in their preparation, still retained in practice, in spite of the opposition of the unbelieving philosophism of the present day.

Of all the Arabian writers, none has been so celebrated as Avicenna, who was long the oracle of medicine in the schools, and shared the homage of its professors with the old man of Cos and the physician of Pergamus. The following remarks by our author, in reference to the neglect of pharmaceutical remedies by his countrymen of late years, are so entirely consonant with the opinions which we have always expressed in this Journal, that we have much pleasure in introducing them here to the notice of our readers "I do not desire," says he, "to revive that heap of bizarre, and often very ridiculous, formulæ; but I cannot help lamenting the other extreme into which we have fallen in the present day. It has landed us in such a famine, so to speak, of therapeutic resources, that people begin to inquire, when they read the clinical reports of some of our most able physicians, if medicine is now what it was before the time of Hippocrates—*the contemplation of death, or the necrology of a cemetery.* No where do we see any real efforts made to triumph over disease. Every exertion is made to determine most exactly the seat, extent, and form of a morbid alteration; and when they have succeeded in this object, they seem to fancy that everything possible has been done. Such knowledge, we readily acknowledge, is very necessary; but it is assuredly not all that is required

of a medical man. He must not stop short at the diagnosis of a disease; he has then to proceed to a more important part still, the treatment of it. The old physicians acted in the very opposite manner; they neglected too much the diagnosis, and were altogether taken up with considering how to cure the disease they had to deal with. Their Materia Medica was certainly encumbered with far too many formulæ; and yet, we must confess, they often succeeded in obtaining a cure that could never be achieved by the use of gummed water! *To cure:* there is the end, the only philanthropic end of medicine; and he who succeeds the best in this glorious endeavour, deserves most highly of humanity."

Although Montanus, on one occasion, gave to a hypochondriacal patient the advice—which, by the by, has often been very erroneously perverted into a precept of general application—*fuge medicos et medicamina, et sanaberis*, he expressly recommends the use of warm aperients, as rhubarb and turpentine, of regular exercise, friction of the extremities, &c. Platerus ordered his patients to take before their meals a powder composed of coriander and aniseeds, cannella, fennel and balm. Rhodius, following the example of Rondelet, cured a patient by trepanning him! Another favourite remedy with this gentleman was the application of the cautery over the line of the coronal suture? Sanctorius insisted much on the use of a vegetable diet and of regular exercise. Baillou gives the sound advice that 'hypochondriacal persons should eat little, but often, because their humours require to be continually renewed, in order that they may get rid of all acrimonies, and not generate any new ones by the fluids remaining too long within their vessels.' Zacchias trusted a great deal to the use of chalybeates, in conjunction with bathing. Burnet in his *Thesaurus Medicinæ*, has collected together all the remedies that had been recommended by preceding writers: it is a compendium alike of regimen and therapeutics. Vieussens is in every respect a representative of the old humoral school. As he saw nothing in the disease but an impure and thickened blood and concrete state of the lymph, with engorgement of the abdominal viscera, his chief remedies were various depuratives, evacuants, bleeding, and subsequently tonics. Sydenham, in our author's estimation, was certainly not so judicious a practitioner, at least in the treatment of Hypochondriasis, as his "reputation aussi colossale," might justly have led us to expect. According to the English Hippocrates, the main indication is to restore to a healthy condition the blood which supplies the animal spirits; and as the *ataxia* or irregularity of these was supposed to induce, in course of time, an alteration in the circulating fluid, he recommended that bleeding and purgatives should be used in the first instance to lessen its quantity, and then that steel should be given to render tone both to the blood and to the animal spirits. If the patient was very weak, he began the use of chalybeates at once; and, during their administration, he exhibited no purgative medicines, but only gently soothing anodynes. He advised the application to the abdomen of a plaster of galbanum and castor; and, in some cases, administered medicated wines of gentian, absynthium, cinchona, &c. Horseback exercise and travelling were also favourite remedies with him.

Stahl, who considered that a stagnant state of the circulation of the vena portæ had so much to do with the disease, insists strongly on the

good effects to be obtained from promoting a hæmorrhoidal discharge by the application of leeches to the anus, and the use of aloetic medicines. Hoffmann advises a similar treatment, more especially at the time of the spring and autumnal equinoxes. He lays down the following four therapeutic rules to guide the practitioner: 1. To evacuate the crude and windy matters; 2. To dissipate the stagnant humours; 3. To appease the spasms; and 4. To fortify the nervous system. When health is once restored, he tells us thus how to preserve it: *tunc enim optimum præsidium est nulle uti remedio, sed præcipuum sanationis punctum in mutatione ætatis, aeris, vitæ generis, victusque consistere fide experientiæ compertissimum est.*

Dumoulin is reported to have said on his death bed, "I leave behind me three great physicians, diet, exercise, and water." Sauvages has laid down many judicious instructions, censuring those practitioners who trust exclusively either to mental or to physical remedies: the use of both ought always to be conjoined.

"If," says our candid author, "he has unnecessarily multiplied the species of Hypochondriasis—bilious, sanguineous, melancholic, pituitous, hysterical, asthmatic, phthisical, calculous, and tympanitic—he has shown himself in matters of practice to be superior to many moderns, who seem to forget that the cure of the sick is the end and object of our science."

Of Whytt we are told that, while he accorded a proper degree of confidence to medicinal means, he never neglected to combine with their use a purely moral treatment. It is almost unnecessary to pursue this chronological notice of the therapeutics of Hypochondriasis any further; as we find an ever-recurring repetition of nearly the same remedies, till we reach the period when *gastritism* was the dominant genius of the schools. Fortunately this delusion has now nearly passed away, and physicians are beginning to imitate the practice of the good olden times, prescribing more for symptoms, and less for conjectural causes. Not many have adopted the *Cerebro-pathic* doctrines of Georget and Falret, who attached an almost exclusive, and therefore an undue, importance to moral and intellectual treatment. Not that we undervalue this part of hygienic regimen: far from it. We quite agree with Fontanelle, that "a physician has almost as much to do with the imagination of his patients as with their lungs or their livers; and he must well understand how to treat their imagination, which demands particular specifics. A mere anatomist may dispense with eloquence; but a physician can scarcely do so. The one has only facts to discover and present to the eye; but the other, ever obliged to form conjectures on subjects often doubtful, requires also to base them on grounds that are solid, or which at least comfort and give assurance to the alarmed fancy. He must sometimes speak almost without any other object but to speak; as he has often the misfortune to deal with men at those very times when they are most feeble and childish. This puerility prevails principally among the higher classes, and more especially in that section of them who often require rather to be amused than to be cured. In general, if he (the physician) has not the gift of ready speech, he will need almost that of miraculous healing to compensate for the want."

This is all very well; but we need not say that soft words will not cure many cases of Hypochondriasis. Much may be done by physical as well as by moral regimen and treatment. The intestinal and urinary secre-

tions must be carefully and regularly attended to. If the patient be subject to hæmorrhoidal discharge, this should generally be promoted rather than checked: *hæmorrhoides*, says Hippocrates, *melancholiam et lienis morbos curant.* Temperance and regularity should be peremptorily enjoined; moderation in sexual pleasures also is very necessary: *quibus nervi dolent, Venus nocet.* One of the most useful of all remedies is manual employment and bodily exercise. M. Reveillé-Parise tells us of a patient who had been recommended to take a sea-voyage for the cure of his malady. A friend had very considerately recommended him to read the philosophic works of Seneca on board, with the view of distracting and comforting his mind: "mais quel pauvre medecin de l'ame et du corps en comparaison du travail des pompes et de cabestan!" he himself frankly confessed to his physician on his return.

Travelling, and change of air and scene, have been lauded since the days of Hippocrates: *in morbis longis solum mutare debent*, says the old Sage; and Baglivi expresses the same thought in these words: *evenit morbos peregrinatione desinere, qui antea nulli medicamini cedebant.* This most accomplished physician—whose works we strongly recommend to the Sydenham Society to reprint—in another passage thus beautifully points out the soothing and sanative influences of a judicious hygienic regime on hypochondriacal patients: *Et licet talium hominum morbi primo aspectu perniciosi et incurabiles videntur, sanari tamen solent facile non quidem per nimiam remediorum copiam, sed aut per grata amicorum colloquia, aut per honesta ruris oblectamenta et equitationes frequenter, aut tandem per vivendi normam a sagaci medico institutam.*

In all cases, it is very necessary to attend to the state of the skin, to promote perspiration, and encourage an active circulation on the surface: hence the importance of shower or plunge bathing, and brisk friction with the horse-hair gloves, or a flesh-brush, &c. The intimate connection between the cutaneous and the digestive organs has long been understood; and their diseases are often observed to alternate with each other.

Hypochondriasis has been known to cease very quickly, or even suddenly, on the breaking out of a cutaneous eruption. Reil says: *Nam subito exanthemata, ulcera &c. oriuntur, et eodem momento morbus nervosus præsens cessat.* Lorry expresses the same thought: *Sæpe scabies, impetigo, herpes erumpentes sanitatem retulere;* and Heine makes a similar remark in these words: *Attulit sæpe curationem scabies fœdâ, aut varix numerosa ingens enata, valde tumentium fluxus hæmorhoidum, atrabilis per superiora et inferiora rejectio.* A sharp attack of the gout, as Stoll has remarked, has often been known to dissipate not only hypochondriasis, but even melancholy and mania: *subortâ arthritide sæpe curantur.*

It has been remarked that hypochondriacal patients are more than usually exempt from contagious and epidemic disorders: *Hypochondriaci*, says one of the old writers, *morbis contagiosis et epidemicis rarius corripiuntur; nervi, ad spasmos efficiendos activi, sensu pro contagio carent; si quondam efficiuntur, hypochondriasis cessat.*

There are many other topics connected with the treatment of Hypochondriasis that we could wish to have alluded to, if our space had permitted. One word respecting the use of sedatives. Medical practitioners are often too timid in the administration of this class of medicines in

many nervous diseases. If no sharp pain be present, and if the patient sleep moderately well, it is certainly better to abstain from using them; but let it be remembered that *nihil molestat sicat dolor*, and that a restless night will often suffice to throw a patient back farther than a week's suffering during the day-time. A mild soporific—which should generally be combined with a gentle aperient—at bed-time will often much promote the cure.

We conclude with the closing paragraph—to the sentiments of which we fully respond—of M. Brachet's excellent work.

"Let the physician never forget that he has to deal, at one and the same time, with a sick body and a diseased mind. Let him therefore not fail to make use of moral and physical treatment simultaneously, and not trust to either exclusively. Let the careful study of each patient direct the selection of the remedies to be employed in his case. Let him in general avoid the use of all very potent or drastic medicines, and have recourse to them only in certain peculiar cases, and even then with the greatest reserve. Let him warn his patient against an avidity for a variety of remedies. The exaggerated advice of Montanus—*fuge medicos et medicamina, et sanaberis*—would be less hurtful than an indiscriminate polypharmacy. Rather than let him fall into the hands of charlatan medicasters, it would be much better to inculcate upon him the memorable couplet of Arnaud de Villeneuve,

Si tibi deficiant medici, medici tibi fiant
Hæc tria: mens hilaris, requies moderata, diæta."

It only remains for us to say a few words about M. Gendrin's new volume. It gives a most elaborate, but often too a most wearisomely minute, history of Dyspeptic Complaints. If a separate volume is to be devoted to each disease or group of diseases, how many will be required to complete this Philosophical Treatise? We cannot say how philosophers may like this multiplication of books; as critics we must enter our protest against it, as most unnecessary and unprofitable.

Although we say this, we must acknowledge that there is a great deal of curious and valuable matter in the present volume.

THE HOSPITALS AND SURGEONS OF PARIS. AN HISTORICAL AND STATISTICAL ACCOUNT OF THE CIVIL HOSPITALS OF PARIS; WITH MISCELLANEOUS INFORMATION AND BIOGRAPHICAL NOTICES OF SOME OF THE MOST EMINENT OF THE LIVING PARISIAN SURGEONS. By *F. Campbell Stewart*, M.D. New York and Philadelphia.

THIS work contains a condensed account of the numerous and interesting hospitals and medical institutions of Paris, to which such general information has been added by the author, as to make the volume a useful manual or student's guide for such of his countrymen as might be disposed to visit that city for the purpose of completing their professional education. The

entire work consists of two parts; the first part contains an account of the Hospitals and Medical Institutions of Paris; whilst, in the second part, will be found the lives of the most distinguished surgeons of that capital. Besides the information in regard to the several addresses and the hours of admission to the various places of medical resort, interspersed under different heads throughout the pages forming the first part, several Sections have been introduced, giving an ample account of the Schools of Medicine and Pharmacy, the Dissecting Rooms, Museums, &c. &c.

The administration of the Civil Hospitals of Paris, is conducted by, 1st. A *General Council* consisting of seventeen members, of which the Prefect of Seine is President, and the Prefect of Police is a member *ex officio*. The other members are appointed by the King and serve for five years. This body holds a weekly meeting, and frames all regulations for the government of the public institutions. 2d. *An Administrative Committee*, consisting of five members of the General Council, who examine all accounts, &c. 3. *A Banker and a General Secretary.*

Organization of the Hospitals.—All the Civil Hospitals of Paris are divided into three classes:—1. General Hospitals; 2. Special Hospitals; and 3. *Hospices* or *Alms-houses.* Each hospital and most of the hospices, are provided, 1st, with a Director to superintend the general arrangements and internal police of the institution; 2d, with *Surgeons* and *Physicians* proportioned to the number of beds in the hospital, about sixty patients being allowed to each. The surgeons and physicians are obliged to pay a daily morning visit to their patients; after which they prescribe in rotation for out-door patients. They are allowed one or more *internes* and *externes*, according to the extent of their service, one student of pharmacy, a nurse for each ward, and a Sister of Charity for each Service, male and female. Before being eligible to the office the surgeons must have attained the age of 30 years, and the physicians 35. The salaries vary from 600 to 1,800 francs, according to the length of their service. 3d, with an *Apothecary*, who is chosen by *Concours.* 4th, with *Internes* or resident physicians—these too are chosen by *Concours*—they must have attained the age of 18 years, and have served one year as *Externe*; they must reside in the hospital, and their duty consists in visiting the patients in the morning with the surgeon or physician, and again by themselves in the evening, prescribing during his absence, and in cases of emergency, and assisting in all operations. They receive a salary of 400 francs and their board and lodging. 5th, with *Externes*, or "dressers," who are elected as the internes and serve four years. They do not reside in the hospital, nor do they receive any pay. 6th, with *Students of Pharmacy.* These are appointed after a *Concours.* The examination consists, 1st, in answering written questions on materia medica, pharmacy, and chemistry, for which *four hours'* time is allowed; 2, in answering oral questions, for each of which *ten minutes* is given; 3, in recognising such plants and articles of the Materia Medica as may be placed before them. Foreigners, as well as natives, are admitted to these *Concours.* 7th, with *Sisters of Charity*, who are members of some religious society. These reside in the hospital; they are divided into two classes, such as attend on the patients, and those who manage the internal arrangements of the hospital. The former have

the entire charge of the wards during the absence of the surgeon or physician; they administer the medicines, and serve the patients with their diet. They receive only 200 francs per annum.

Bureau Central.—This is an office belonging to the General Administration. It is here that patients must apply for admission to hospital. To this office a certain number of medical men are attached, who are chosen by Concours, and from this body the hospital physicians and surgeons are selected.

Next follows a very full account of the Hospitals of Paris, of the number of beds, the physicians and surgeons annexed to them, &c.

In the account of the Physicians and Surgeons we very much desiderate in this work a piece of curious and interesting information, which was furnished in a small French work brought out some years ago on a plan somewhat similar to the present, by Dr. Ratier, entitled *Formulaire des Hôpitaux de Paris*, viz. an account of the peculiar opinions of the most eminent physicians and surgeons of Paris, either on the treatment of disease generally, or of some particular diseases to which they may have more especially devoted their attention. The author next gives an account of Medical Instruction in France; of the state of the Profession there; and a statement of the advantages of studying medicine in Paris. With respect to the state of the Medical Profession in France, he conceives it to be as elevated as in any other country of the world. One prominent cause of this he conceives to be the severe and rigid tests demanded of all applicants for the honour of admission into its ranks. A gradual increase has been made during the last ten years, in the quantum of knowledge required by the medical faculties. It is now made incumbent on all students to obtain a diploma of Bachelor of Sciences, before they can be permitted to undergo their fifth or final examination for a degree. This is somewhat similar to the requiring a degree of A. B., by the University of London, of those persons who wish to obtain the degree of M. D. in that establishment. Instead of one general one, in France, students are subjected to five examinations, which, occurring at intervals of several months, and referring to such branches only as they shall have in the mean time studied, enables them to prepare themselves thoroughly to answer any question that may be put. The advantages attending the system of the *Concours* are greatly lauded; by it, they say, an equal and fair opportunity is afforded to all for making known their respective qualifications; and all who possess superior talent and acquirements, are sure of meeting encouragement and promotion. To the Concours Dupuytren owed, and Velpeau now owes, the elevation which they attained in their profession.

Inscriptions and Qualifications required from Students.—An inscription means the registering one's name in a register kept for the purpose. This has to be repeated every three months, and on each occasion the student will receive a card, certifying to the fact of his having inscribed. When a person who intends to study medicine presents himself at the Bureau of the Faculty to take out his first inscription (which, as well as in the case of all subsequent ones, must be done in person), he is required to deposit with the Secretary the following documents:

1st. His certificate of birth.

2d. His parent's or guardian's consent for him to study medicine, should he be a minor.

3d. A certificate of his morality.

4th. His diploma of Bachelor of Letters.

A diploma of Bachelor of Sciences is required after the fourth inscription, and prior to the first examination.

The full term of study comprises four years, or sixteen quarterly terms.

Examinations.—Every pupil, before he can gain a diploma from the Paris Faculty of Medicine, must submit to five examinations, one of which takes place at the end of his first year of study, and the rest at stated intervals after. The first examination is on the subject of Chemistry, Physics, and Medical Natural History. The second embraces Anatomy and Physiology. The third, Internal and External Pathology. The fourth, Hygiene, Legal Medicine, Pharmacy, Materia Medica, and Therapeutics. The fifth, and last, is a practical one, and is conducted at the hospital of the faculty (*Hôpital des Cliniques*); it consists in selecting two patients from the wards of the hospital, and examining and prescribing for them in the presence of a committee of three professors. The first four examinations are conducted by two professors and one assistant professor, and three candidates are examined at the same time; for the fifth examination only two candidates at a time are admitted. Physicians and surgeons, graduates of foreign schools, who may be desirous of obtaining a diploma from the Paris Faculty, must submit to all the examinations required from students; they must likewise exhibit their diplomas of Bachelor of Letters and Bachelor of Sciences. If they can show, by proper certificates, that they have studied in a Foreign University during two years longer than is required in the Paris Faculty, they are entitled to an immediate examination, on the payment of all the charges exacted for the five separately. If they cannot produce proof of having been six years engaged in study, then such time as they have studied will be allowed them, in the proportion of two-thirds.

The King has the privilege of granting unconditional licenses to foreigners to practise in France. The examinations are conducted in French, and by the professors themselves, or by the assistant professors (agrégés). A student is always notified, four days beforehand, of the time appointed for an examination; and, if he do not present himself at the hour indicated, he is not allowed to apply for another examination until after the expiration of three months, which are thus lost to him.

Theses.—The Theses of all candidates for medical degrees are to consist of written answers to four questions, which are to be drawn for by lot. The questions embrace the subjects of the physical sciences, anatomy and physiology, surgery and medicine. The thesis is to be deposited in the hands of the Dean when the student offers himself for his final examination, and it is referred to some member of the faculty to examine, prior to its being supported in public by the author. All these must be printed at the expense of the student. The whole expenses incident to obtaining a medical degree from the Paris Faculty amount to eleven hundred francs.

The remaining portion of the First Part of this work contains succinct accounts of the various Medical Societies in Paris, of the Medical Journals published there, with the names of their editors, &c. To this is annexed an account of the expenses and mode of living in Paris. The information here given is of the greatest possible use to the stranger who goes to Paris for the first time. The principal hotels, with their prices, the lodging-houses, boarding-houses, &c. are here described with such precision and clearness, that no one can go astray in this particular who has this volume to consult. The First Part closes with a Bibliography, or an account of the principal medical and surgical works, with the names of the authors.

The Second Part is devoted to Biographical Notices of some of the most eminent Parisian Surgeons. The biography of living men is a very ticklish sort of thing. Whilst distinguished merit is still present amongst us, it is exposed to all the disadvantages of misrepresentation, misrepresentation, however, arising less frequently from the partiality of friendship, than from the malignancy of envy:

Urit enim fulgore suo qui prægravat artes
Infra se positas: extinctus amabitur idem.

In conclusion we have to say, that the medical student who intends going to Paris, in order to complete his medical education, will find his account in providing himself with this book.

OBSERVATIONS ON PHTHISIS IN MARTINIQUE. By *E. Rufz*, M.D.

IN reviewing the tenth volume of the "Memoires de l'Académie Royale de Médecine," some time since, we inadvertently passed over this paper, which contains some points of sufficient interest to justify a brief analysis.

The Academy having inquired the opinion of the practitioners in the French colonies as to the prevalence of phthisis in those localities, Dr. Rufz forwarded the above paper. It contains his experience at St. Peter's, Martinique, for four years, during which time he attended in private practice 1954 patients, of whom 123 or about 13 per cent. were cases of phthisis. Other practitioners, living in various parts of the island, whom he interrogated, represented the disease as prevalent as he found it, constituting the most frequent of all the chronic maladies. It is remarkable that other chest affections are very rare, so that during five years the author saw but three cases of pneumonia, while chronic bronchitis is just as seldom seen even in aged persons. Other affections, again, which are usually considered as belonging to the same family as phthisis, as white-swelling, Pott's disease, glandular engorgements, &c. are seldom met with.

Hæmoptysis.—In seven out of the nine cases in which an autopsy was

made, the patient succumbed under excessive hæmoptysis, a termination which, according to Louis and Chomel, is rare in Europe. In no case could any erosion of a vessel be detected, and even when the bronchi, trachea, and stomach were filled with blood, the excavations in the lungs contained neither fluid nor coagulated blood. In 55 fatal cases, hæmoptysis, in a greater or less degree, was noted 39 times, reproduced in the majority of cases at various stages of the malady. It did not seem to hasten the progress of the disease. The entire number of cases of hæmoptysis the author has met with in four years is 63, and of these 51 were evidently cases of phthisis.

Abdominal Lesions.—Of nine cases examined after death, in only two were ulcerations of the intestinal canal discovered, and these were very slight. This would be expected from the fact, that *diarrhœa*, even in the last stage, is a very rare complication in Martinique. The fact is the more singular, as the gastro-intestinal functions are very susceptible of derangement in that island, constituting the great mass of cases of disease, while the treatment of phthisis by purgative medicines is a very popular practice.

Age.—The author gives this table—

From 10 to 13 years	2
—— 15 " 20 "	14
—— 20 " 30 "	39
—— 30 " 40 "	25
—— 40 " 60 "	4
After 60	9

The freedom of *young children* from phthisis is remarkable in Martinique, for Dr. Rufz, in all the autopsies he has made for various diseases in children, has never met with tubercles but twice; although most of these cases had sank in consequence of prolonged diarrhœa, the most fatal complaint of children in that climate. He explains it thus:—

"Perhaps we may find the cause of this in the mild temperature of the climate, so favourable to the early years of life, and in the various habits consequent upon such a temperature. Children during the first months are only clothed in a linen shirt, and sometimes are allowed to go naked. They are not confined in cradles, or even within doors, but are placed upon a straw mat in the open air, and allowed to kick about as they please. About six or eight months after birth they crawl about on their hands and feet, and at ten months or a year old walk firmly. In the town of St. Peters, where running water is found in every house, they often bathe themselves two or three times a day. Nevertheless, such is the influence of warmth in infancy, that when these children are debilitated by diarrhœa or other cause, it is found best, notwithstanding the heat of the country, to clothe them in a flannel shirt.

"After the age of six or seven years, these children, so beautiful at first that an European, accustomed to the children of the North, always believes them six or eight months older than they are, undergo a change, become pale or yellow; and it is rare to find the same strong and healthy adolescence we meet with in the schools in France. It is at this period a voyage to Europe is so useful. The same difference exists even in the negro, although it is less sensible; the negro infants being a much less fine race than those of the French peasants."

The author is disposed to believe that the climate of Martinique exerts a retarding effect occasionally upon the progress of consumption. He has met with eight cases which, notwithstanding marked signs of the disease at an early period of life, have reached old age.

Sex.—Forty-five men and fifty-six women were the proportions observed by Dr. Rufz; and in this case, *stays* exert no influence in giving the usual preponderance to females, since they are unknown in Martinique, were the garments are light and ample.

Constitution.—Among the women, 44 are noted as of feeble, and six of strong constitution; and among the men, 30 are of feeble, and 12 of strong constitution. The author observes, it is a great error to suppose that weak constitutions are those best adapted for a residence in warm climates. Persons of robust frame and temperate habits best resist the effects of the torrid zone.

Race.—These colonies have been peopled by Europeans and Africans. Children born of Europeans intermarrying, are white, and are termed white creoles. The children of Africans are termed black creoles. The union of Europeans with Africans has produced a population of various shades known as *mixed-bloods*. Of these last, the *mulatto* results from the union of the white and black, and the *capre* from that of the black and mulatto. The following is the proportion in which phthisis has manifested itself in each.

European Whites	3
White Creoles	49
Mulattoes	22
Capres	7
African Negroes	2
Negro Creoles	19

Thus, the disease is rare among Europeans. The same fact is shown by the experience of the Military Hospital of St. Peters, containing only European soldiers, from the age of 18 to 30; and from which it seems that out of 400 patients admitted for various diseases, two or three only were affected with phthisis. The author contrasts this with what he had observed in the military hospitals of the South of France, were such cases abound. The proportion of the white creoles may seem unduly great in this table, as the practice of Dr. Rufz lies principally among that class. Phthisis proves especially fatal to the mulatto-women, who furnish the victims for public prostitution. The negro-creoles, considering that they are three times as numerous as the whites and mulattoes united, offer a small proportion of cases of phthisis. As the slave-trade has been abolished since 1830, the number of African negroes, of the age especially liable to phthisis, is but few.

Seeing that the disease is so rare among the two or three hundred soldiers who are sent annually from Europe to replenish the garrison, exposed as they are to various debilitating causes, as nostalgia, intermittent fever, dysentery, &c., and how few resident Europeans are attacked by it, one is tempted to believe the climate of these Colonies is favourable to

the disease. On the other hand, it is to be observed, that many Creoles who have remained during a long period in France for the purposes of their education, become the victims of phthisis very shortly after their arrival, which leads to the belief that the climate cannot be favourable to those already predisposed.

Hérédité.—Pursuing his inquiries into thirty families in which phthisis had prevailed, Dr. Rufz found that in three instances the fathers had died phthisical, in five the mothers, in two the uncle or aunt—eleven times a greater or less number of brothers or sisters, and three times the cousins. It would seem that phthisis is less a hereditary disease, transmissible from father to son, than a congenital defect peculiar to children issuing from the same blood.

Temperature.—The suppression of perspiration by chills is the most powerful cause of disease in Martinique. The vicissitudes of temperature are by no means so considerable as in Europe. The thermometer is never raised at St. Peter's above 24° Reaumur, and, while thus high, seldom falls lower than 20°. But, although the greatest variation is not more than three or four degrees, bodies highly heated easily lose a large quantity of caloric, and slight breezes affect as much as thermometrical variations. It is not rare, upon the hottest days, to feel oneself as if frozen, while bathed in perspiration; and a short sleep is often followed by this sense of chilliness. So that the use of the flannel-waistcoat, for the purpose of absorbing the superfluous sweat, and preventing the ill effects of clothing soaked with it being in contact with the skin, is more common in this colony than in any country in the world.

Treatment.—Dr. Rufz states, that a greater success attends this in Martinique than in Europe. He adopts the same plans of treatment that there prevail. Among hygienic procedures he especially recommends *horse-exercise;* and although he cannot go so far as Sydenham, in terming this the bark of phthisis, he has always derived good effects from its employment. One advantage of the climate of Martinique is, that the patient may take exercise out of doors during any part of the year; and the author has seen patients avail themselves of this solace until the last day of their existence.

It is interesting, in connexion with the recommendation of their employment by the high authority of Sir James Clark in our own country, to find the author a warm advocate for the more frequent use of *emetics* in the treatment of phthisis. In many cases in which he has had recourse to them, they have produced very beneficial effects in quieting the cough, calming the respiration, and improving the appetite. He has given them in all stages, and only on three occasions has found it necessary to suspend their use by reason of the fatigue they caused. In two cases they arrested hæmoptysis which had resisted other measures. He employs ipecacuanha or antimony indifferently.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

Notices of some New Works.

NARRATIVE OF A VOYAGE TO MADEIRA, TENERIFFE, MEDITERRANEAN, &c. By *W. R. Wilde*, M.R.I.A., &c. Octavo. Second Edition, enlarged. Dublin, 1844.

MR. WILDE, who is favourably known by his publication on Austria, and other works, was appointed medical attendant on a gentleman of fortune, voyaging in his own yacht, in pursuit of health and pleasure wherever their inclinations, wishes, or interests led them. A more delightful circuit could scarcely be made than our voyagers pursued. Although the Lexicographer never travelled farther himself than to Mull and Iona, he has stated it as his opinion that "he who wishes to see the world, must travel round the Shores of the Mediterranean." We wish we could follow Mr. Wilde in his comfortable and spruce yacht to Egypt, Palestine, and most of the great Lions of Antiquity; but we dare not travel beyond the prescribed circle of medicine.

MADEIRA.

The impression on the minds of professional men is now all but universal, that Madeira offers the best chance of recovery from pulmonary complaints—when not too far gone; for then, Madeira, like every other southern locality, will only accelerate the fatal catastrophe. There are, generally, from two to four hundred English invalids who winter in Madeira, and many of them, who arrive late, have some difficulty in procuring accommodations. These are of three descriptions—furnished houses in or near the town, (amounting to nearly thirty,) each capable of containing a moderate family, and varying in expense from 60 to 200 pounds for the season. These it is necessary to bespeak before-hand. One female servant is worth half a dozen of males. Abundance of extremely honest Portuguese servants can always be procured. The second mode of accommodation is in family hotels, where small families may have separate apartments at 45 to 50 dollars per month per head. There are half a dozen or more of these hotels. The third consists of boarding-houses, with a *table-d'hôte*, and conducted much the same as in England. There are six or seven of these—all kept by English. The following extract contains useful information.

"In connexion with the subject of invalids, I here beg leave to offer some information upon the different modes of transit, derived from the most authentic sources, and brought down to the present time. During the last two seasons, the Peninsular Steam Navigation Company sent out one of their vessels, the Royal Tar, direct to the island. The prospectus states, that she 'will leave Southampton on the 18th of October; and after landing her goods and passengers at Madeira and Teneriffe, will proceed to Gibraltar, from whence she will make two trips to Madeira, leaving Gibraltar, on the first trip, about the 2d, and on the second trip, about the 12th of November, to convey to the island such passengers as may be desirous of visiting the Peninsular ports (Vigo,

Oporto, Lisbon, Cadiz, and Gibraltar.') One of the same company's steam-ships will go out to Madeira in spring to bring home passengers. The latest and the amended prospectus of this company states, that passengers can be 'booked out in the fall and home in the spring of the year. Outwards—passengers have the option of two ways of proceeding, viz.: either by way of the Peninsula, in the Peninsular and Oriental Steam Navigation Company's Peninsular steam-ships, which start from Southampton for Gibraltar, every Saturday, at four, P.M., calling at Vigo, Oporto, Lisbon, and Cadiz; at any, or all of which places, passengers will have the privilege of making such stay as they require, being taken from port to port by following steamers, without additional charge, and finally embarking at Gibraltar for Madeira, on board the Royal Tar, which vessel will make one or more trips for that purpose, between Gibraltar and Madeira, starting from the former place on or about the 4th of November, on her first trip—or, passengers may proceed to Madeira direct, by the company's steam-ship, the 'Royal Tar,' Captain G. Brooks, starting for Madeira, from Southampton, on the 18th of October next.

"Homewards—In the spring of next year, one of the Peninsular and Oriental Steam Navigation Company's steam-ships will make two, or as many more trips as may be necessary, between Madeira and Gibraltar, for the conveyance of passengers desirous of returning, *via* the Peninsula, and will return from Madeira direct for Southampton, the same as last spring.

"Rates of passage-money, which include a liberal table, with wines, spirits, &c., and also bedding, linen, and cabin furniture of every description—From Southampton to Madeira, first class, 30*l.*; second class, 21*l.*; children under ten years, half price; children under five, one-third; children in arms (with the parent), free. Steward's fees, 15*s.* each first class passenger.

"Rates of passage out in the autumn, and home in the spring—Direct to and from Madeira, 55*l.*; by way of the Peninsula, 50*l.* The Royal Tar carries an experienced surgeon. To secure passages, select berths, &c., apply at 44, Regent-street, Piccadilly; and the Peninsular and Oriental Steam Navigation Company's offices, 57, High-street, Southampton, and 51, St. Mary Axe, London.

"The royal mail steamers for the West Indies proceed direct from Southampton to Madeira, leaving England the 2d and 17th of every month. This mode has only just commenced. All the steamers make the trip in from six to seven days.

"The Brazil packets still continue to touch regularly at Funchal. The East and West India ships also call there generally; but will only take passengers to or from the island when their berths to their final destination are not occupied; and this in England cannot be known till the last moment, so they are the least to be depended on.

"Three regular traders, the Grace Darling, Florence, and Vernon, fitted up with very comfortable accommodation for passengers, sail regularly once a fortnight. Many persons prefer them to the steamers; the passage is about twelve days on the average; the expense about 20*l.* Besides these, there are always small Portuguese vessels trading to Lisbon and Gibraltar.

"Again, a steamer leaves Falmouth for Lisbon on Mondays, *regularly*. First cabin fare, 15*l.*; second cabin, 9*l.* 10*s.*, which includes table, &c. A steamer leaves Lisbon for Madeira every fortnight, and returns in a few days after she lands her passengers. Fares from Lisbon to Madeira (at present), first cabin, 10*l.*; second cabin, 7*l.*, including table; deck, 3*l.* An English stewardess attends. The British mail contract-boats, which sail on Mondays from Falmouth, call at Vigo, Lisbon, Cadiz, and Gibraltar—touching at Oporto, and return by the same route, which is performed in eighteen or twenty days."

The heat of the Madeira Summer will be found too relaxing in general, and a return home in June will often be found useful.

Mr. Wilde is of opinion that the climate of Teneriffe is in no wise inferior to that of Madeira—indeed it is much drier. He thinks it admirably adapted to bronchial affections, with much expectoration. The towns are infinitely cleaner than Funchal—wheel-carriages can be more readily used—and great variety of climate can be easily obtained, by ascending some of the neighbouring hills. But it wants good accommodation.

We must now take leave of Mr. Wilde's highly amusing volume, which is pleasingly written, and full of information.

Reports of the Pennsylvania Hospital for the Insane, for the Years 1841 and 43. By *Thomas S. Kirkbride*, M.D.

The Hospital for the Insane is an offset from the General Hospital, nearly two miles West of the City, and only began to receive patients in January, 1841. In reports of this kind there must always be a large portion of what is called "parish business"—but there is almost always something to interest the professional reader, however distant from the locality in question. The Pennsylvania Hospital appears to be well ventilated, heated by air, and supplied with good water. Being a recent construction, it has all the advantages of modern improvements. A considerable space round the buildings is dedicated to pleasure grounds for the recreation and health of the inmates. All classes—curable and incurable—are admissible, upon securing the payment of a reasonable sum for board—from three to five dollars per week.

In a large proportion of the recent cases some bodily disorder was cognizable, and the general health being restored, many of these recovered promptly from the mental aberration. In some, however, no bodily indisposition could be detected, and no indication appeared for medicine. All patients, unless for reasons to the contrary, are expected to take a warm bath at least once a week, for cleanliness; and there are all kinds of baths for medicinal purposes. The diet, except where bodily disease requires regulation, is ample—indeed we might say unlimited, both animal and vegetable.

Considering, as we do, that insanity is more or less connected with, or dependent on, corporeal disease or disorder, we apprehend that the above-mentioned scale of table pleasures is somewhat too liberal. The patients are treated in a mild and conciliatory manner, and "roughness or violence is never tolerated." Among employments and amusements, *out-door labour* stands pre-eminent. A farm, attached to the establishment, furnishes the means of exhibiting this valuable remedy. A workshop has lately been constructed, which affords useful labour to particular classes, especially when the weather will not permit of out-door employment. The Sabbath is strictly observed, and the influence of religion over the minds of the insane is remarkably illustrated on that day. Bodily coercion is not entirely relinquished in this Hospital.

"Simple seclusion in chambers properly secured, has been resorted to during the past year, in by far the greater number of cases that have appeared to require restraint of any kind. In others, leather wristbands, secured by a belt around the body, or mittens of the same material, or of canvass, have been employed, in rare cases, with a soft band about the ankles, and two patients have occasionally been kept on their beds with much advantage, by an apparatus also of leather, but admitting of much freedom of motion."

Among the numerous tables in this volume the following is a very interesting one.

Table—*Showing the supposed Causes of Insanity in* 176 *Patients.*

	M.	F.	T.		M.	F.	T.
Ill health of various kinds	15	17	32	Celibacy	1	—	1
Intemperance	16	—	16	Mortified Pride	—	1	1
Loss of property, failures, &c	9	4	13	Anxiety for Wealth	1	—	1
Dread of Poverty	2	—	2	Use of Opium	—	1	1
Disappointed Affections	2	2	4	Use of Tobacco	1	—	1
Intense Study	4	—	4	Child-birth	—	5	5
Domestic Difficulties	1	3	4	Uncontrolled Passion	1	1	2
Fright	2	—	2	Tight Lacing	—	1	1
Grief, loss of Friends, &c.	2	10	12	Injuries of the Head	2	1	3
Intense application to business	1	—	1	Masturbation	2	—	2
Religious Excitement	3	5	8	Mental Anxiety	2	1	3
Want of Employment	6	—	6	Exposure to Cold	1	—	1
				Unascertained	29	21	50
					103	73	176

Of sixty-one patients who had been discharged, or who died in one year, we find that 30 were cured—that 5 were much improved—that 6 remained stationary —and that 9 died. Among the nine deaths, one was a case of typhus fever, the delirium of which was mistaken for insanity—the second was from dysentery—the third from chronic inflammation of the bowels and stomach—the fourth from phthisis—the fifth from meningitis—the sixth from hydrothorax—the seventh from erysipelas—eighth and ninth from suicide.

From a Second Report, for the year 1843, we shall make a few short extracts.

"*Restraint.*—Although the means heretofore detailed, and the aid of a vigilant and efficient corps of assistants, have enabled a large number of the patients to enjoy the privileges which I have mentioned, almost from their first entrance; it is not to be concealed, that we always have in our family, some with that unfortunate temperament, that blackens the fairest scenes,—distorts the purest motives, and misconstrues the kindest actions; and that many require some more decided restraint, until the violence of their attack has subsided."

And again—

"Restraint of some kind is one of the means for treating insanity, which, to a greater or less extent, will always bo required; but all that is proper, does not necessarily imply the use of apparatus, to which the term has generally, but with great impropriety, been restricted. The amount of restraint at all justifiable is still so little understood in many sections of country, that the subject cannot be too frequently referred to, in the reports from Hospitals for the Insane.

"I have stated in a previous report, and have seen no reason to change that opinion, that it is quite possible to dispense with all restraining apparatus, in a well-constructed Hospital, properly supplied with an efficient corps of attendants; but that, under certain circumstances, the use of the milder means may be a comfort to the patient, and much less annoying, than constant struggles with, or even the presence of, the best instructed and most humane attendant. These cases, however, are not common. Having no exclusive views on this subject, apparatus has been used, here, in every case, where I saw a rational indication for its employment.

"The only means of the kind we ever employ in this Hospital, consist of an apparatus which effectually retains a patient in his bed, while admitting of considerable motion; leather mittens or wristbands, secured by a belt around the body; and a strong cloth jacket, with continuous sleeves."

We are thoroughly convinced that a mild *mechanical restraint*, in obstinate cases, is less irritating to the patient than the personal efforts of keepers to effect the same object.

Researches into the Physical History of Mankind. By *J. C. Pritchard*, M.D., &c. &c. Vol. the Fourth, 1844.

The goal of this stupendous work is within the view of its author. One more volume will complete an undertaking that has no parallel in the English or in any other language. No similar work will be attempted for ages to come. No author could hope to equal, much less surpass, the researches of Dr. Pritchard. An imitation could only be a series of plagiarisms, or a tissue of errors. To attempt an analysis of a work of this kind would be fruitless. Besides, the investigation is equally interesting to every class of readers, though not strictly adapted for extensive notice in a journal of practical medicine. There are certain portions of this volume, however, which are peculiarly attractive to the medical reader, and from these we shall select a few characteristics.

1. *Physical Characters of the Persian Races.*

Sir J. Chardin, in particular, asserts that the Persians are an ugly ill-favoured race; and he ascribes this to their non-intermarriage with the neighbouring Circassian and Georgian females. It is true that the Southern Persians are darker coloured than the Northerns; but this may be accounted for by climate and other causes. The numerous sculptures of the Medes and Persians on the walls of Istaker and Hamadan, prove that the Persians *were* amongst the most beautiful of the human race. Actual observation in modern times, has proved that their descendants have not sensibly degenerated, in this respect, from their ancestors. They have not, indeed, the fine intellectual countenances of the Greeks; but they display features of the Indo-European style, with long faces and high foreheads.

2. *Physical Characters of the Native Indians.*

This race embraces such a multitude of genera and species, that it is next to impossible to sketch any thing like a general character. It has been asserted that the Aborigines of Hindostan were a tribe of Negroes with woolly hair and the African features. Dr. Pritchard once leant to this hypothesis, but has, long since, abandoned it. As far back as historical records reach, the Indians had straight or lank hair, and features very unlike the Negroes. Herodotus describes them accurately, as divided into castes as at the present day. Dionysius, the Geographer, is much more particular as to the physical character of this ancient people.

"The inhabitants are swart, and in their locks betray the tint of the black hyacinth."

In general the Hindoos have small foreheads—the face thinner and more meagre than Europeans, and they are much inferior to them in strength. They are lean, feeble, and incapable of supporting hard labour and fatigue. So says Dubois, but he is mistaken. The Hindoos will bear fatigue in their own country which would overwhelm and destroy the European. In Bengal the greater number are below the middle stature; but in the upper provinces it is very different. Some of the Hindoos are as black as the Negroes, which surprised Bishop Heber much. But, in fact, the shades are endless, from nearly white to jet black. Their gesture and garb smack of the maidenly or even the effeminate; with sly countenance, yet smiling out a glozed and bashful familiarity.

3. *The Chinese.*—This wonderful people, now more interesting to us than ever, form a peculiar group of nations, who boast a civilization of their own, a development and cultivation of intellect—a growth of arts, knowledge, and religion, independent and indigenous, deriving nothing from the aid of foreigners, either n the earlier or later ages of the world. Almost as separate from the countries

of Central Asia as were the civilized nations of Peru and Anahuac, the Chinese lived under the patriarchal rule of powerful Emperors long before their name or country were heard of in Europe. For centuries afterwards, they were only known as possessors of a country which produced the most splendid manufactures of the East. The poetical Greek Geographer describes them as—

> ——————— "barbarous tribes who use
> Nor oxen hides, nor wool of fatted ewes;
> They weave sweet flow'rets of the desert earth
> Of finest texture and of richest worth—
> Robes bright of hue as flow'rs that deck the mead,
> Of finer texture than the spider's thread."

The physical character of High Asia seems, in the Chinese, to be softened down and modified into the European type. Customs, habits, laws, and language combine to amalgamate the various tribes of this extensive empire. Dr. P. cannot venture to consider the Chinese, Japanese, and Koreans as belonging to one race or family, because their languages are not referrible to one original. "Yet they are, if we regard their physical characters, one sort or stock of people. No human races bear a stronger resemblance to each other than these three people. They all have the same physical type." Whether the same type was originally impressed upon them, or resulted from long-continued influence of external agency, will never now be ascertained. In either case, the effect is the same.

LINNÆUS has characterized the Chinaman as—"Homo monstrosus, macrocephalus Chinensis." This is a monstrous exaggeration. The small eye, elliptical next the nose—high cheek bones—pointed chin, are prominent features in the Chinese countenance, while the shaving off the hair gives to the head the shape of an inverted cone. The natural colour of the skin is between a fair and a dark complexion—or that of a European brunette, becoming brown in the labouring classes from exposure to the sun. Many females in China, among the better classes, would pass for beauties in Europe.

They are of the middle stature—small hands and feet—face flat—nose small—eyes prominent—hair black and stiff—scanty whiskers and beard. The women, in general, are far inferior to those of Georgia, and some other parts of Asia.

But we must conclude with these few specimens of Dr. Pritchard's highly interesting volume. When he has completed the fifth tome, he may well exclaim—

> "Exegi monumentum aere perennius."

ON THE OCCURRENCE OF SARCINA VENTRICULI ALONG WITH ACETIC, LACTIC, AND CARBONIC ACIDS IN WATER-BRASH. By *George Wilson*, M.D., Lecturer, &c. Edinburgh.

IN this paper the attention of pathologists is directed to some curious phenomena accompanying certain forms of morbid digestion in the human subject. Of these the most remarkable is the appearance of a microscopic cryptogamic plant (*Sarcina Ventriculi*), and of acetic, lactic, and carbonic acids, in a liquid ejected from the stomach. Mr. Goodsir published the first case of these in the Edin. Med. and Surgical Journal for April, 1842. In fact, five cases of sarcina have occurred very recently and within a very short space of time; which renders it not improbable that the development of this organism is no uncommon accompaniment of certain derangements of the digestive functions. Dr. Wilson here presents us with the more important particulars of the cases already seen, with some observations on the manner in which the chemical and microscopical phe-

nomena are related to each other, and to the state of the system which attends their manifestation. The first case occurred in a young man of 19, who had been suffering for months from what he supposed to be water-brash. He stated that it attacked him on awakening in the morning with a feeling of distension of the stomach; that without any effort of vomiting, a quantity of fluid, varying in volume from two-thirds to a whole wash-hand basinful, passed up from his stomach; that after this he was quite relieved, and experienced no further inconvenience till the evening of the same day, when, without decided distension, sounds as of a fluid boiling or bubbling, and proceeding from the region of the stomach, were perceptible to himself, and to those around him; that he slept well enough, but was generally attacked next morning—the fluid ejected by this patient "smelt like fermenting worts, with a faint acid odour. It appeared, after standing for a few hours, moderately transparent, and of a light brown colour. It deposited in the bottom of the basin a quantity of a ropy matter of a granular appearance, and on the surface was a mass of froth like the head of a pot of porter." On examining the fluid with the microscope, the sarcina was at once detected and was found to present the following characters. In every instance the organisms presented themselves in the form of square or slightly oblong transparent plates, of a pale yellow or brown colour, and varying in size from the 800th to the 1000th of an inch. They were made up of cells, the walls of which appeared rigid, and could be perceived passing from one flat surface to another as dissepiments. These dissepiments, as well as the transparent spaces, were from compression of contiguity rectilinear, and all the angles right angles; but the bounding cells bulged somewhat irregularly on the edges of the organism by reason of freedom from pressure. These circumstances gave the whole organism the appearance of a wool-pack, or of a soft bundle bound with cord, crossing it four times at right angles, and at equal distances. From these very striking peculiarities of form, Mr. Goodsir has proposed for it the generic name of Sarcina.* The ejected fluid was thick and viscid; on standing, it deposited a large quantity of ropy matter mixed with portions of undigested food, and when filtered through paper had a pale brownish yellow colour and was quite transparent—it contained much animal matter in solution, and gave a copious precipitate with infusion of galls—it also precipitated nitrate of silver densely, and when evaporated to dryness, and exposed to a full red heat in a platina crucible, left an ash containing much chloride of soda—it reddened litmus and effervesced sharply with alkaline carbonates. It was found also by neutralizing the fluid, after distillation, with lime water, and decomposing the salt thus formed by means of sulphuric acid, that it contained acetic acid. After distilling all the acetic acid, it still reddened litmus; this was owing partly to the presence of a little free muriatic acid, but chiefly to lactic acid. The most remarkable feature in this case was the large quantity of acetic acid present.

Mr. Bell's patient was a girl aged thirteen, who was subject, after her meals, particularly dinner, to enormous distension of the abdomen, accompanied by a gurgling noise and fetid eructations. From this she was relieved by vomiting "a thinnish, moderately transparent fluid, with a thicker and more tenacious portion, like gruel, at the bottom of the vessel—the surface sometimes covered with froth." In this, Mr. Goodsir found the sarcina in great abundance. The liquid from Mr. Bell's patient was found to correspond with that from the first patient. The frothy appearance depended on the presence of carbonic acid, which was proved by experiment to be present in the liquid ejected by the second patient. The frothy appearance in the liquid given by the first patient may fairly be presumed to depend on the same cause. Thus, then, the liquids from both patients contained, besides undigested food, salts and animal matter, much acetic,

* *Sarcina*, a wool-pack.

lactic, and carbonic acid, and in one case a little muriatic acid, the quantity of carbonic acid being decidedly abnormal, as was also that of the acetic and lactic acids.

The ejected liquid, it may be well to notice, must have consisted partly of secretions from the stomach, partly of products of digestion—the bulk of the liquid being secreted by the stomach, and the acids being derived from the food. We already alluded to the resemblance between the ejected matter and a fermenting liquid; in fact it bore a striking resemblance to a vegetable juice undergoing lactic fermentation. The sarcina too might be considered as the analogue of the microscopic plants which are found to accompany the fermentation of infusion of malt and the juices of different fruits—hence the disease was supposed to result in great part from the food undergoing within the stomach a peculiar fermentation; three different views, in fact, might be entertained concerning it.

1. The disease might be regarded as depending on a simple or spontaneous fermentation of the food. 2. The *sarcina* might be considered as the *cause morbi*. 3. The stomach might be looked on as furnishing the ferment, and the sarcina as an accompaniment only of the fermentation excited. The last view seems the most probable. According to recent researches, the performance of digestion depends on the presence in the stomach of two different substances,—the one, free muriatic acid, the other, an animal matter called *pepsine*. Infusion of pepsine has no solvent action on alimentary substances, but its addition, even in minute quantity, confers this property on water acidulated with muriatic acid. How the pepsine acts in conferring this power, is a disputed point. Liebig represents the pepsine* as an efficient cause of alteration in the food, solely because its own particles are in a state of decomposition or transformation. The pepsine bears the same relation to the food, whose digestion it effects, that yeast does to the sugar it ferments. The transforming action of pepsine is limited in the normal state to rendering the insoluble portions of the food soluble in the gastric juice. Now all the azotized bodies, as diastase, yeast, &c. which act as ferments, and among which pepsine may be ranked, pass through several stages of decomposition whilst performing this function, and modify the non-azotized bodies on which they act, according to the state of decomposition in which they themselves are. From these considerations it appears that, within certain limits, if the mode of decomposition of the ferment alters, the mode of decomposition of the fermented body must alter also. Thus, if normal digestion be the result of a constant decomposition of the pepsine in one way, it must be liable to be rendered abnormal by the pepsine decomposing in a different way. The cases already cited seem to be derangements of digestion of this kind. Normal digestion is here looked on as a fermentation, and pepsine as a ferment. The carbonic, acetic and lactic acids, found in such abundance in the ejected fluids, were products of the fermentation or transformation of the food, determined by its contact with the modified pepsine.—*Northern Journal of Medicine.*

LETTER TO THE HOME SECRETARY OF STATE. By *J. Perceval*, Esq.

THIS epistle, with a score or more of documents and letters, appears to be a somewhat romantic, if not quixotic campaign against the Metropolitan Commissioners of Lunacy, on account of their "unjust and pettifogging conduct towards a gentleman lately under their surveillance." Mr. Perceval appears to have waged war, not only against the Commissioners, but against the Lord Chancellor,

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* Liebig does not actually employ the term *pepsine*.

nay, against the Law itself! The author is a bold man, and has certainly taken the bull by the horns. Of Mr. Perceval's mode of warfare and the kind of weapons which he wields, the following passage will convey some idea.

"Dr Southey and Dr. Bright, many years ago, I came in contact with, on which occasion I do not think that their conduct was just or straightforward. Of Dr. Bright I can say, that I never saw a countenance that shocked me more strongly, as stamped with the expression of Lunacy." Dr. Southey has not fared much better under the hands of Mr Perceval. "Dr. Southey has too much of the *suaviter in modo* to be depended upon for the strict discharge of his duty, where rank and power are arrayed against poverty and helplessness."—p. 6. Surely Mr. Perceval cannot expect that any great attention can be paid to animadversions mingled with such personal invectives as the above. In respect to his protegée—the Man in mask or in blank—whose incarceration in mad-houses Mr. P. bewails and labours to avenge, we very much fear that his recriminations and complaints are greatly exaggerated by the keenness of his own feelings and the dolorous reminiscences that rise through a haze in his mind's eye. It is not often, indeed, that we hear of liberated maniacs lauding their former keepers, or praising the diet and discipline of the asylum. We shall glance, however, at some of the grievances which the Man in blank sets forth in a letter to the Commissioners of Lunacy. For sixty-five nights he was annoyed by "a colony of rats under the floor." "No pen or tongue can describe the misery and agony of my feelings; nor the horrors of those sleepless nights passed in a gallery filled with twenty to thirty pauper maniacs, amidst their cries, and moanings, and howlings, and blasphemings, &c. &c." Now, we really think that the "Golony" under this Pandemonium had no small reason to complain of the annoyance which they sustained from their superiors in the gallery. The complainant states that, at the Establishment in question, which shall be nameless, there was a paucity of keepers, and that he himself was sometimes obliged to assist in applying the straight-waistcoat round his refractory messmates. The want of sufficient firing is loudly complained of, and the cheese was such that, had the rats known the quality of that which they were in search of, they would have directed their forays into another channel.

We are happy, however, to know that, since the Man in blank set forth his grievances, great reforms have taken place, moral and physical, in Lunatic Asylums; and if Mr. Perceval, by his former exertions and remonstrances, has contributed to these meliorations, he may rest contented with the laurels he has gained.

On the Physiological and Medicinal Properties of Bromine and its Compounds; also, on the Analogies between the Physiological and Medicinal Properties of these Bodies, and those of Chlorine and Iodine, with their Correspondent Compounds. By *R. M. Glover*, M. D. Edin. (Notice from the Edinburg Med. and Surg. Journal, No. 152.)

The subject of this Paper, which was proposed for the Harveian Prize Essay of 1842, is extremely interesting, as well for the results more immediately arising from its consideration, as for its contributing to the solution of a problem of the highest interest, viz. the extent to which the chemical analogies of bodies are accompanied by analogy of action on the living system. The idea of a relation between the chemical and physiological properties of bodies, similar to that which exists between the external forms of many plants and the action of the same plants on the animal economy, has been frequently suggested. The author first alludes to the remarkable analogies of physical character in chlorine, bromine,

and iodine, which may in general be traced in a modified form throughout the long series of compounds. Thus, at ordinary temperatures, chlorine is a light green coloured gas; bromine a liquid of a splendid red colour; iodine a solid, with an intense shade of violet. And the volatility of their respective compounds in general follows in each case the rule of the element. Hydrochloric acid is the most volatile of the three hydracids, and hydriodic acid the most fixed. The chloride of potassium is volatile at a brown red heat, while the iodide requires a much more elevated temperature. Chloride of cyanogen is gaseous at ordinary temperatures, when the bromide and iodide of the same substance are solid. He next adverts to the relation which is found to subsist between the specific heats of these bodies, and also between their chemical equivalents. From the chemical facts ascertained by investigating the several habitudes of these bodies, the author concludes, that bromine is more allied in chemical properties to chlorine than to iodine. The following is the arrangement observed by the author in the composition of his Essay.—1st. He considers the Physiological Properties of Bromine and its Compounds—the Hydrobromic Acid, Bromides of Potassium, Sodium, Magnesium, Barium, Zinc, Iron, Mercury, Cyanogen and Olefiant Gas, with Bromiform, and the Analogies which they offer with Chlorine and Iodine, and their correspondent compounds;—2d. The Medicinal part of the Inquiry; 3d. General Conclusions.

PHYSIOLOGICAL PROPERTIES OF BROMINE AND ITS COMPOUNDS.

All substances capable of exerting a chemical action on component parts of the tissues of organized beings, must be irritant, the phenomena which appear in such cases being partly of a reactive character. The exact nature of the action of bromine is as yet obscure. But little is known on the subject, save the mere fact of the coagulation of albumen by bromine. Considerable doubt exists with respect to the action of all corrosive substances on the animal tissues. Mulder describes a series of regular atomic compounds formed by the action of acids on albumen, such as the sulpho-proteic acid. Looking at the analogy of chlorine, we have the chloro-proteic of Mulder.

According to Ballard, bromine readily attacks organic matters, such as wood, linen, and especially the skin, which it colours strongly yellow; the tint being less intense than that given by iodine, and disappearing like it at the end of some time. In these circumstances, according to Berzelius, water is decomposed, the oxygen is carried to the organic substance, and the hydrogen forms hydrobromic acid with the bromine. It is not easy to see, observes the author, how, on the coagulation of albumen by bromine, a bromo-proteic acid could be thus the sole resulting compound. When white of egg is coagulated by bromine, either pure or in solution in water, the colour of the element is lost. The coagulum is soluble in solution of caustic potash with or without the aid of heat. From this solution we can readily obtain evidence of the presence of bromine. If, without dissolving the coagulum, we wash it on a filter with distilled water, the liquid that passes, assumes a faint blue tinge, and is a solution of a small quantity of albumen in dilute hydrobromic acid. Conceiving the existence of a chloro-proteic acid to be altogether hypothetical, the author prefers explaining the changes described, by supposing that compounds of albumen, with bromine and hydrobromic acids, exist in the clot, the albumen serving as a feeble base; but when the clot is washed, these acids are decomposed, and a weak solution of albumen in hydrobromic acid passes the filter.

The action of hydrobromic acid on albumen presents a most beautiful analogy with that of hydrochloric acid. When white of egg is put into concentrated hydrobromic acid, it is at first coagulated; but by repeated agitation in excess of the acid it is dissolved, and with more facility by the aid of heat. The result is the formation of a deep-coloured solution, not of a deep indigo blue tint, as in the case of hydrochloric acid, but of a brownish purple hue. When bromine in

water is placed in contact with fibrin, the latter substance is converted into a bluish gelatinous-looking body. The same circumstances are observed of fibrin in this state as of albumen coagulated by bromine. A solution of colouring matter of the blood is coagulated by bromine, the hue of the mixture becomes olive-green, and ultimately gray, if excess of the element be employed. And it may not be without interest to observe, that, on washing the coagulum, the iron of the blood is removed; and yet, when the washings cease to give evidence of containing iron, a large excess of bromine having been employed, the precipitate left in the filter, on being boiled with solution of caustic potass or soda, will give a colour nearly resembling that of the blood. This fact may be adduced in connexion with the argument of M. Scherer, who has sought to prove that the colour of the blood is not entirely dependent on its iron.

Bromine exerts an action on the fatty principle of the tissues, and appears to be transformed into hydrobromic acid at their expense. The compounds formed are probably analogous to those so formed by chlorine. With respect to the physiological properties of bromine and its compounds, sufficient evidence has been adduced by former investigators to show that the primary action of bromine, introduced into the stomach, or into the circulation, bears considerable resemblance to that of chlorine or iodine, in so far as either of these bodies can be similarly administered. The following facts may be stated with advantage, as the results of former investigations. M. Balard, the discoverer of bromine, observed that a drop of it placed on the back of a small bird soon produced death. Barthez found ten or twelve grains of bromine dissolved in a sufficient quantity of water to occasion death when injected into the jugular of a dog. A single fit of tetanus only preceded death. Sometimes, in such an experiment, death did not take place, but there were restlessness, dilated pupil, frequency of pulse, and sneezing. Blood-letting after the commencement of the symptoms favoured recovery in such cases. The author gives passages from Devergie descriptive of the symptoms occasioned by the introduction of bromine into the stomach of animals. Introduced into the stomach of a dog in a dose varying from 30 to 40 drops it occasions death, giving rise to:—nausea, attempts to vomit, vomiting, acceleration of the respiration and circulation, prostration continuing till death—the pathological alterations being, injection of the villous coat of the intestinal canal, with corrugation of the gastric portion of this membrane; now and then grayish superficial ulcers, and in some cases softening. These effects have much resemblance to such as have been observed to arise from the similar administration of chlorine and iodine. The author here details a series of experiments instituted for the purpose of ascertaining the action of bromine on the system. The first was with a gold fish placed in a mixture of one part of saturated solution of bromine and two parts of water—its whole surface was immediately corroded, and life was extinct in less than a minute. Four drops of bromine were placed on the bill of a pigeon—the bill was corroded—violent excitement followed by an apathetic state—death in two days from corrosion and irritation of the air-passages caused by inhaling the fumes of the bromine. Four drops of bromine were introduced into the external jugular of a strong male rabbit—he immediately shrieked; respiration laborious—pupils dilated—heart's action violent, but ceased after a few irregular beats—two or three convulsive struggles; the animal was dead in 70 seconds from the commencement of the operation. On opening the chest, the irritability of the heart was found to be destroyed—the substance of this organ was corroded near the apex—several marks of corrosion in the lung. Blood in the right ventricle and pulmonary artery coagulated. Similar experiments were instituted with the same results on a terrier bitch and a strong fox hound. The post-mortem appearances in the two latter subjects were—congestion of lungs with several apoplectic-like spots—bronchi contained frothy blood. Stomach contained about half a pint of grumous blood—its mucous coat was much injected and presented several large ecchymoses—rectum

vascular. From the results of these experiments we may conclude that bromine introduced directly into the circulation appears to exert a corrosive and irritant action on any organ to which it may be directed—in the experiment on the fox-hound, it was found to produce death by coagulating the blood and so obstructing the circulation. The sudden stoppage to the circulation through the left side of the heart, and consequent compression of the nervous centres, may account for the nervous symptoms which occur in such cases.

Two series of effects are produced by the introduction of bromine in large doses into the stomach,—1st, from the action due to volatilized bromine getting into the fauces and air-passages, and so into the lungs; and 2d, from the corrosive and irritant action on the stomach and intestines. Another series of effects might be due to the entrance of bromine into the circulation. To the first series might be referred the coryza, sneezing, salivation, and affection of the respiration. The solution of a part of the stomach, as observed in one of the experiments, may be explained by the conversion of the bromine still tarrying in the stomach into hydrobromic acid. The absorption of hydrobromic acid is corroborated by numerous analogical facts. Chlorine and sulphuretted hydrogen pass into the urine, also arsenious acid. The hydracids of chlorine, bromine, and iodine, are peculiarly likely to be absorbed, since the two former form soluble compounds with albumen, and we may assume as much of the other.

The author here details the observations of M. Fournet on the physiological effects of bromine, which were manifested on some patients of his, affected by chronic arthritis. The remedy was given suspended in mucilage. The dose was at first two drops, but was raised by two drops daily, until it amounted to sixty drops in the 24 hours. The quantity of mucilage employed was always four ounces. Two drops thus taken occasioned only a hot sensation in the back of the palate. In a little stronger dose the patient experienced in a quarter of an hour itchings in the hands and feet, and shocks in the feet and near the knees. After a quarter of an hour there were borborygmus and colic. As the dose became stronger, there was a sensation of heat in the chest, accompanied with attempts to vomit, but without any vomiting. At first, a peculiar sensation of weakness and fatigue in the chest accompanied these first efforts, but these symptoms, from habit, soon disappeared. The patient who had the itchings in the fingers was always the most sensible to the effects of bromine. Tonic and diuretic effects have been experienced from bromine. That it acts on the nervous system is evident from its occasioning dilated pupil and stupor.

Hydrobromic Acid.—Several experiments were instituted to ascertain the physiological properties of this acid, and it was found to be less powerfully irritant and corrosive than the element.

The author next details the results of some experiments undertaken to ascertain *the Properties of the Bromides of Potassium and Sodium.* These experiments enable us to compare the operation of the bromide with that of the iodide of potassium. According to Mr. Blake, the salts of potash, when injected into the veins, destroy the irritability of the heart, and when introduced into the arteries, obstruct the circulation through the systemic capillaries. The experiments made by the author prove both these properties to be possessed by bromide of potassium. The bromide of potassium is found to be less powerful than the iodide of the same base. The bromide of sodium appears to bear a close resemblance to common salt in physiological properties; it bears a great resemblance to it in taste. The *bromide* and *iodide of barium* were found by experiment to possess the physiological properties of the class of salts to which they belong, more especially resembling the chloride of the same base. From the results of experiments made with *bromide of magnesium*, there seems reason for concluding that this compound of magnesium participates in the general physiological properties of the magnesian salts. It is less active than the bromide of zinc, still the effects produced by it very much resemble those caused by the zinc salt.

It was ascertained by experiment that the *bromide of zinc*, when thrown into the venous system, puts a stop to the motions of the heart, without, however, totally destroying the irritability of the organ; and that, when this salt is introduced, so as to pass through the systemic capillaries before reaching the heart, it obstructs them temporarily, but exerts its deleterious influences on the central organ of the circulation when it arrives there in quantity. The experiments instituted with *bromide of iron* establish the analogy of it with other salts of the same base, and more especially with the iodide. When injected into the veins, it appears to obstruct the pulmonary circulation and weaken the heart's action; when these effects have in some degree subsided, a powerful secondary action on the intestinal canal becomes apparent.

The *Bromide* and *Sub-bromide of Mercury* bear the most remarkable resemblance in chemical properties to the chloride and sub-chloride, to which also their physiological affinity is strict. With respect to the *Bromide of Cyanogen*, it appears, from the results of numerous experiments instituted by the author, to possess two kinds of action; one on the spinal cord—perhaps primarily on the sympathetic system, closely resembling the primary effect of prussic acid. The secondary or irritant action far exceeds in intensity that of prussic acid. This body has little corrosive power, it coagulates white of egg but slowly, and is as nearly as possible a pure irritant in its secondary action.

We shall now pass on to consider the—

Medicinal Properties of Bromine and its Compounds.

Bromine was first used as a medicinal agent by M. Pourché. Before this, Desorgues, calling himself a *simple magistrate*, had written to the Academy of Medicine, proposing the employment of bromide of mercury in the treatment of syphilis.

M. Bonnet, in a paper published in the *Bulletin General de Therapeutique*, July 1837, in detailing all that had been then observed in France with respect to the medicinal uses of bromine and its compounds, refers to the researches of M. Pourché. In a case of scrofulous enlargement of the glands of the neck in a woman of 22 years of age, who had been affected for seven years, a cure was effected in three months by the external and internal use of bromine. At first, six drops dissolved in three ounces of water were given in the day, in three doses. Next day ten drops were given. In ten days the dose was increased to fourteen drops daily, and at last to thirty drops in the same quantity of water. Cataplasms, moistened with solution of bromine, were applied to the swellings. The same physician had great success in the treatment of scrofula by the internal and external use of the hydrobromate of potass. M. Bonnet attributes great benefit to the bromide and sub-bromide of mercury, as constitutional remedies in comparison with corrosive sublimate and calomel, the former having, he says, less action on the salivary glands, and more on the urinary secretion. Magendie employs bromine and its preparations in scrofula, amenorrhœa, and in hypertrophy of the ventricles. Dr. Williams has used the bromide of potassium with success in cases of enlarged spleen. The first case which he gives is that of a boy, aged 14, in St. Thomas' Hospital. Both the liver and spleen were enormously enlarged. Their edge was hard, and substance unyielding. Abdomen contained much fluid—countenance sallow and emaciated—legs dropsical—belly protuberant—the ordinary remedies were tried in vain; at length the iodide of mercury was used—this removed the dropsy, but the liver and spleen remained enlarged. The patient now commenced the use of the bromide of potassium, one grain thrice a day, which dose was gradually increased to four grains. After using it for nearly two months he became slightly jaundiced—the jaundice was removed by the sulphate of magnesia, and in a few weeks the bromide was resumed; when, after its continued use for some time

he improved gradually, and was dismissed with the liver and spleen considerably diminished.

The author now gives a summary of the results obtained in his own practice. In a case of obstinate eczema of the legs and arms in a married woman, aged 40, of strumous habits, a saturated solution of bromine mixed with water until it ceased to give pain, and applied by means of lint and oil-skin, caused a decided improvement to take place. In two months the patient was cured. The second case mentioned by him was one of specific ulcers of the legs of long standing. After various metallic washes had been applied to the ulcers without any benefit, they were treated with a strong etherial solution of bromine, which acted as a caustic, and lint steeped in a saturated solution of bromine placed over them, covered with oil-skin. This application, which was repeated next day, produced pain and intense redness, and was discontinued. The ulcers healed rapidly afterwards, and cicatrization took place. The third case was one of carbuncle, which, after resisting the hydriodate of potash, used internally and externally, was cured by the external use of bromine—forty minims to the pint of water—in between six and seven weeks. In another case of scrofulous ulcer of the leg, in a boy aged 12, with a similar ulcer on the back of the right wrist, about the size of half-a-crown, in which tonics and hydriodate of potash had been used without success, the lotion of bromine, in the dose of 40 minims to the pint of water, was applied externally three times a day by means of lint and oil-skin, while the bromide of potassium was given internally. In six weeks the ulcer on the leg was nearly healed—that on the wrist continued open. He was then made an out-patient, and died in the course of the winter of diabetes. Several other cases are given by the author, where the bromides were employed with varying success.

From all the author has witnessed with respect to the real therapeutic power of bromine and its compounds, he is disposed to recommend the external use of bromine in scaly dartrous affections of an inveterate character, in specific and malignant ulcers, where there is defective action. Oil-skin should be employed to cover the lint in which the bromine is dipped, to prevent evaporation. Internally the use of bromine must necessarily be very limited.

We have now given a concise analysis of this interesting paper, which does great credit to Dr. Glover, and proves him to be an industrious and judicious experimenter in a department of medical science, so very important, because so decidedly practical.

THE AMERICAN JOURNAL OF INSANITY. Edited by the Officers of the Lunatic Asylum in UTICA. No. 1. July, 1844.

BROTHER JONATHAN is, assuredly, "going a-head" in physic as well as in commerce, and all the various branches of art, science, and literature. Free, or at least democratic institutions, have a general tendency to liberate the mind from the shackles and forms imposed on it by despotic governments; as may be seen in a comparison of China with Great Britain. But, as America is still more democratic than England, so, in the former, there is greater propensity to spurn the boundaries within which the current of thought, invention, and speculation runs in the "Old World." The "JOURNAL of INSANITY" conveys a new idea; and the wonder is that it never struck the encephalon of John Bull, who is not a little prone to this terrible malady, and who expends many millions annually on institutions for its reception and treatment.*

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* There is a Journal of Insanity lately established in France, (Annales Medico-Psychologiques,) by Drs. Baillarger, Cerise, and Louget.—*Ed.*

The Asylum in UTICA is a recent and state establishment, and among the Board of Managers we recognise some good names; such as Dr. Theodore R. Beck, Dr. Coventry, &c. &c. The resident officers of the Asylum include Drs. Brigham and Buttolph. The following sentence is gratifying:—"*It is believed that the proper discipline can be established among the maniacs without the use of the whip.*"

The second article in this new contemporary is entitled—"*Insanity illustrated by the Histories of Distinguished Men, and by the Writings of Poets and Novelists.*" Our countryman, COWPER, is the first that comes on the stage, since he was not only insane, but a poet, and has given us portraits of himself as well as of others in that melancholy predicament. His own feelings, however, can hardly be depended upon when his intellects were deranged; but his delineations of CRAZY KATE, show the poet and the observer in every line.

"She heard the doleful tidings of his death,
And never smiled again! And now she roams
The dreary waste—there spends the live-long day.
She begs an idle pin of all she meets,
And hoards them in her sleeve."

It is curious that this begging of a pin is by no means uncommon among the insane.

In Childe Harold, Byron, no doubt, refers to his own case.

——— "I have thought
Too long and darkly, till my brain became,
In its own eddy boiling and o'er-wrought,
A whirling gulf of phantasy and flame;
And thus untaught in youth my heart to tame,
My springs of life were poisoned."

Johnson has described monomania in the person of the Astronomer in Rasselas, who thought that he ruled the planetary system. Every one now acknowledges the close connexion between genius and insanity, of which we have more than one example among the Lions of our own days. But we cannot say that stupidity is free from madness, as is supposed by one poet at least.

"Hail, awful Madness, hail!
Nor best nor wisest are exempt from thee.
Folly—Folly's only free."—*Penrose.*

Monomania is not incompatible with a high range of intellect on other subjects than the delusion. Simon Brown wrote his defence of the Christian religion—one of the best that was ever written—while labouring under insanity, and when he believed that his rational soul was dead, and that only his brute life remained. The remarkable fancies that have entered the imaginations of monomaniacs, would fill a thousand volumes. Perhaps the man described by Mr. Moore, the poet, who fancied he had been guillotined, and afterwards got a wrong head on his shoulders, is as ludicrous as any on record.

"Went to the mad-house,—saw the man
Who thinks, poor wretch, that while the fiend
Of discord here full riot ran,
He like the rest was guillotined;—
But that when under *Boney's* reign,
(A more discreet, though quite as strong one,)
The heads were all restored again,
He in the scramble got a *wrong one.*
Accordingly he still cries out
This strange head fits him most unpleasantly,
And always runs, poor devil, about
Inquiring for his own, incessantly!"

The above patient was in the Bicetre many years. Shakspeare, of all poets, has shown, as it were from inspiration, the greatest knowledge of insanity. The more we read his works, the more we are astonished at the correctness of his portraits. His knowledge of the disease—its nature—and even its treatment, were far in advance of the age in which he lived.

"An examination of the writings will show that he believed the following facts, all of which were in advance of the general opinions of his age, and are now deemed correct.

"1. That a well-formed brain, a good shaped head, is essential to a good mind.

"2. That insanity is a disease of the brain.

"3. That there is a general and partial insanity.

"4. That it is a disease which can be cured by medical means.

"5. That the causes are various, the most common of which he has particularly noticed.

"These assertions we shall endeavour to prove.

"*First.* That a well-formed brain is essential to a good mind, he often mentions. He particularly notices the excellence of a high forehead. Thus, Cleopatra, anxious to know the personal appearance of her rival Octavia, asks the messenger, 'Bearest thou her face in mind, is't long or round?' to which he replies, 'Round even to faultness, and her forehead's as *low* as she would wish it.' This so pleased Cleopatra that she replied, 'There is gold for thee,' and rewarded him for his gratifying intelligence.

"So in the Two Gentlemen of Verona, Julia contemplating the picture of her rival Silvia, says, 'Her *forehead's low*, what should it be that he respects in her?'

"Again; Caliban, in the Tempest, fears they 'may all be turned to Barnacles, or to apes with foreheads villanous low!'

"*Second.* Shakespeare considered insanity to be a disease of the brain.

"In Macbeth, the struggle between sanity and insanity is well illustrated, particularly in the dagger scene. At first Macbeth doubts and asks:—

> "Is this a dagger, which I see before me,
> The handle towards my hand? Come, let me clutch thee."

"Not succeeding, he doubts his eye-sight and exclaims,

> "Art thou but
> *A dagger of the mind: a false creation,*
> *Proceeding from the heat-oppressed brain?*"

"Yet looking again, he sees it in form so 'palpable,' that he for an instant believes in its existence,—but finally reason triumphs and he exclaims,

> "There 's no such thing;
> It is the bloody business, which informs
> Thus to mine eyes."

"The whole passage is beautiful and instructive, and finely exhibits the struggle between reason and delusion.

"Macbeth also believed Lady Macbeth to be affected by mental disorder, and asks the doctor if he cannot

> "Minister to a mind diseased;
> Pluck from the memory a rooted sorrow;
> Rase out the written troubles of the *brain?*"

Showing that he considered her disorder seated in that organ."

Disordered mind is sometimes called by Shakspeare "brain sickness." King Henry exclaims—"What madness rules in brain-sick men!"

The Poet of Nature believed that insanity was curable. Thus, in King Lear, Cordelia asks, "What can man's wisdom do in restoring of his (her father's) reason?" The physician promptly and truly answers:—

"There are means, madam;
Our foster-nurse of nature is repose,
The which he lacks, that to provoke in him,
Are many simples operative, whose power
Will close the eye of anguish."

Next to Shakspeare, Sir W. Scott has given the most exquisite delineations of insanity—more especially in the persons of Madge Wildfire—Norna, in the Pirate—and Clara Mowbray, in St. Ronan's Well. These are so well known that we need not notice them specifically.

We must now draw this short article to a close. In one of the articles of our new contemporary, there is a curious case of insanity, of which we shall exhibit a few particulars.

A gentleman, about 50 years of age, has been slightly deranged for twenty years past. His father was hypochondriacal, and he has a brother insane. He is a man of education, intelligence, and piety—of kind and amiable feelings and manners—conversing rationally on most subjects; but he is unable to walk, or to attend to any business requiring bodily exercise, without great mental agitation and ludicrous movements. He rarely stirs without much solicitation, and would remain in his room all day, if not compelled to move. He occasionally writes verses, and the following ode to the *Hypo* is not unamusing.

"No tongue can declare
The torment I bear,
It my heart-strings doth tear,
So keen are the pangs of the Hypo.

I start 'cross the floor,
Then pitch out the door,
As if ne'er to enter more,
In order to fly from the Hypo.

I then dodge and run,
Which often makes fun,
Till my race is quite done,
I am so bother'd by the Hypo.

I pick up a chip,
A stone or a whip,
And along hop and skip,
And this is to fool the Hypo.

And 't is not in vain,
For my object I gain,
And I will not complain,
For hereby I master the Hypo.

I see people laugh,
Though they 'd better cry by half,
But I then sieze my staff
And rush to the combat with Hypo.

I could sit down and cry,
And pour floods from my eye,
And weep till I die,
I am so afflicted with the Hypo.

But this will not do
I plainly do know,
For it adds to my wo,
And only increases the Hypo.

No, I must resist,
As if fighting with fist,
And sometimes must twist,
Or soon I shall die with the Hypo."

It is consolatory to know that this poor victim to HYPO was greatly relieved by a seton in the back of the neck—warm-baths and other remedies, so that he returned to his family, where he will probably favour us with another ode to HYPO—we sincerely hope a FAREWELL ODE.

We now take leave of our amusing contemporary, and, although his Locus PENITENTIÆ is "pent up in Utica," we trust that the products of his brain will have a wide range—trans and cis-Atlantic.

FURTHER OBSERVATIONS ON THE USE OF NITRIC ACID AS AN ESCHAROTIC IN VASCULAR TUMOURS OF THE RECTUM. By *John Houston*, M. D., Surgeon to the City of Dublin Hospital.

SINCE Dr. Houston's first Essay on this subject in our Dublin contemporary, he has had many additional opportunities of testing the efficacy of the application in question, and the results he considers to authorize a supplemental communication. The cases here published are selected wholly from hospital practice, as being more authentic documents than those furnished from the note-book of the private surgeon. Dr. H. reiterates his caution that the nitric acid is only applicable to the internal bleeding pile—"that soft, red, strawberry-like elevation of the mucous membrane,—for which I have used the term *vascular* tumour—and which the acid removes by the production of a slough of its surface."

"The surface to be thus acted upon must be soft, and free from any coating of cuticle, such as is apt to form on it by persistent prolapse; for, if the acid be used in a case so circumstanced, nothing more than a removal of the cuticle may be expected from the application; and further, to ensure to the caustic its full effect, the part to be touched by it should, beforehand, be dried and cleared of all mucous or other adherent fluids. There is no danger, that I know of, to be apprehended from the application of the acid; I have never seen any consequence from it beyond what I have stated in my reports. But, to be successful, the remedy must, of course, be used with decision. The acid must be laid on in quantity, and rubbed in with force enough to be pressed into the pores of the surface. At the best, it produces only a very superficial slough; and, on this account, it will be necessary in some cases, as where the tumours are old and firm in texture, to make a second, and even a third, application. Of this, the patient should, of course, be informed beforehand, that he may not be taken by surprise, in case any such necessity should arise."

The great value of this remedy lies in its applicability to general practice, and in the readiness with which invalids can be prevailed upon to submit to it. Dr. H. has detailed six or seven cases in his present paper, of which we shall here insert one as a specimen.

"*Case* VI.—William Gray, æt. 32, a tall man, a tide-waiter, temperate, and much exposed to wet and cold, admitted Feb. 12, 1844. He has laboured under his present indisposition for about five years, but during the first year he did not regard it much, as his only inconveniences were those of constipation; out of this arose a habit of taking aperients, which by producing tenesmus, long sittings at stool, pruritus ani, prolapse, and hæmorrhage, only made matters worse. About six months ago, he suffered a more than usually severe attack of this kind, with considerable prolapse, pain, and loss of blood, and from this period

these symptoms did not, as formerly, go off; on the contrary, they became aggravated and accompanied in addition with muco-purulent discharges, which, in spite of his best efforts at cleanliness, kept his linen soiled. The part was touched with solutions of sulphate of copper, caustics, astringent tinctures, &c., and purgatives were administered, by different medical gentlemen, but such treatment only irritated, without diminishing the protrusion or lessening the discharges.

"*State on Admission.*—The muco-purulent discharges are now constant; the blood, occasional; he has almost continually pruritus; he finds difficulty in controlling his inclinations to sit long, and strain at the night-chair, after the evacuation is completed, notwithstanding his long experience of the fallacy of the sensation of there being still something to come away, and his conviction that he has the power of at once relieving it by returning the prolapsed part to its place. He has rarely a stool, unless as the result of medicine; the tongue is white, and he complains of thirst, bad appetite, and flatulence. He suffers from an uneasy sense of fulness, with a glow of heat, and pulsatory throbbing inside the anus.

"On straining in the sitting posture, a protrusion takes place, at least an inch and a half in length, spreading broad over the sides of the anus, and exhibiting three large, blood-red tumours on its mucous surface. The whole texture of the protruded part is tumid from congestion, but the *vascular tumours* stand out beyond the general surface of the prolapse, although they do not, to the feel, exhibit any greater density or hardness than the other parts. Blood oozes from them if they be allowed to remain protruded for any time; the prolapse is not at present at its worst, nor is it accompanied with pain; there is little appearance of varices in the neighbourhood, either inside or outside the anus.

"On the evening of the 13th I administered a purgative draught. On the 14th, while the prolapse was at its greatest projection, I applied the nitric acid effectively to all the tumours. The application caused them to bleed freely; but this was more from the friction on their turgid surface, than from the escharotic effects of the acid; oil was then applied, and the protrusion carefully reduced. The man was placed on his back in bed, with directions not to allow the prolapse to recur; an opiate was administered. The pain of the application was not much complained of.

"15th. He says that he suffered some pain, heat, and throbbing yesterday, after the touching, but that it was of a distressing kind; he was lulled from the opium, but did not sleep; he had, unexpectedly, a free motion during the night, unattended with any unusual pain, and occurring without prolapse. There is, this morning, a projecting, pale, œdematous ridge of the mucous membrane at the margin of the anus,—an evidence of inflammatory action, inside, induced by the irritation of the caustic.

"16th. Found him walking about, at the hour of visit; he feels no pain or discomfort whatsoever, except when he coughs or makes some bodily exertion, and then he is only reminded of his ailment by the part being hurt a little in the effort.

"18th. The bowels have been moved without medicine; the evacuation consisting of fæces stained with pus and sanies (the discharge from the cauterized surface), but not with unmixed blood; there was no prolapse with the movement, and the tumours did not come into sight; nothing is now to be seen wrong, and there is only a slight soreness on pressure.

"20th. He left the hospital sufficiently well to go about his ordinary business."

We need hardly say that this is one of those short, practical, and valuable papers which contain more information than some of the lean or dropsical octavos which we are too often destined to wade through.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL SOCIETY. Vol. VI. Part I. Albany, 1844.

FROM a talented address to the New York State Medical Society, on the subject of insanity, we extract the following practical remarks —

"In the therapeutical treatment of insanity, every case must be considered and treated as an insulated one. Remedies must be applied to the constitution and peculiar features of each case. While the first indication is to remove or lessen, as far as possible, irritation as the immediate cause, pervading the cerebral and nervous system, and through sympathy the vascular, yet are we to bear in mind the condition of other remote organs morbidly excited, and participating in the general disturbance. For instance, the associative powers of the stomach as a central organ are immensely important, as it regards the phenomena of disease. So also, through arterial agency, defective secretion of the gastric juice, and loss of power in the secerning system, we account for local congestion, impaired appetite, and waste in fevers.

"Remedial means when rightly applied need be but few. And what is the popular aim in the cure of diseases, at the present day, but to sustain the conservative principle, the strongest in nature, by the revulsion of excitement to parts less essential to life, and equalizing circulation? Hence the importance that our first move in the treatment of incipient insanity, should be based upon a correct diagnosis; critically regarding the necessary distinction ever to be maintained between phrenitis, and active mania. The one concentrated inflammation, affecting the substance and meninges of the brain; the other, irritation specifically embracing the nerves of sensation and volition, sympathetically disturbing every function and fibre of the human system. The first demanding bold depletion as the anchor of safety, the latter to be approached cautiously, by milder and more comprehensive means, as we shall proceed to enumerate.

"Here then, permit me to remark that no one is competent to endure this searching ordeal who is not well versed, analytically and pathologically, in every branch of medical science.

"Copious abstractions of blood should ever be avoided in insanity as endangering dementia. Very few are the cases of insanity, even in its incipient stage, that admit of venesection. In such only as are plethoric and in the vigour of life, is it admissible at all, and then only in a cautious degree. The pulse is deceptive, for though there may be increased impetus of blood in the carotids, yet they will be found compressible, and the radial artery feeble in its action, showing an unequal distribution rather than congestion. In such cases where symptoms seem urgent, topical bloodletting by leeching, or cupping, may safely be resorted to without danger of collapse. In the treatment of six hundred cases, venesection has not been resorted to in more than one in a hundred, after they entered the institution, and then only moderate in quantity. Many, however, have been brought to the Asylum, after two or three copious bleedings, undoubtedly with the best intentions; yet the results have proved a prostration of the vital energies, more difficult to overcome than the original disease.

"Puerperal insanity, which generally comes on within a week after delivery, arises from a metastasis of morbid lacteal and lochial secretions, is attended with rapid pulse and great prostration of strength. Hence bleeding is inadmissible. If prudently managed, it seldom terminates in permanent insanity. The head and uterus principally suffer, tension and pain of the abdomen being less than in puerperal fever. Generally ushered in by sudden impressions of cold from a higher to lower temperature. Hence the retrocession, and the necessity of restoring the secretions.

"Active emetics are seldom admissible as tending to a determination to the brain. Where there is great derangement of the digestive organs, ipecac. and

calomel combined, in such quantities as to produce a slight emetico-cathartic effect, may prove salutary in their operation. So also the blue mass with one fourth part of ipecac., adds to its efficiency in restoring the functions of the liver.

"Drastic purges are seldom advisable. Laxatives to keep up a steady action of the intestinal tube are far preferable, and may be aided by injections, due exercise, and a well regulated diet. No particular formula can here be laid down. The judgment of the physician must decide on the quantity and appropriateness of the article according to the constitution and peculiarities of the patient.

"Narcotics and sedatives are next in order. Opium, camphor, morphia, stramonium, conium, belladonna, and aconite are most to be relied upon, but require great prudence as to the time and manner of their administration. These are often improved by combination with other remedies. For instance, opium, ipecac., and soap, equal parts, form a pill much easier given than Dover Powders. Camphor mixture, with half a grain of tart. antimony, and five drops of laudanum to the ounce, given in half-ounce doses, is a powerful sedative and adjuvant in allaying nervous excitement. Morphia with colchicum when there is a gouty or rheumatic diathesis, endangering metastasis, is a valuable auxiliary in treatment. Stramonium acts specifically on the sensorium, stimulating the absorbents. A saturated tincture of the seeds in camphor mixture, is the best mode of administering it. Conium is best combined with the different preparations of iron. Belladonna and aconite are often improved by combination. Extracts of these vegetables can only be relied upon when evaporated by solar heat.

"Counter-irritants, revulsive in their effects, are valuable auxiliaries, more especially in metastasis and suppressed eruptions; and are more cheerfully submitted to when allayed with some of the vegetable narcotics endermically applied.

"Bathing. One of the most powerful remedial agents in equalizing circulation, is the warm bath. The patient should be immersed from twenty to thirty minutes, the heat at 96° Fahrenheit, refrigerating the head while in the bath, when the heat of the part should indicate its necessity. Warm bathing will be found particularly beneficial and appropriate in melancholia and delirium tremens. Fixed alkaline salts added to the water, are useful in removing the sebaceous oil from the surface of the body. The nitro-muriatic bath is a valuable and effective agent in a congestive state of the liver, and should be repeated in connection with the usual remedies, until we have evidence of a healthy secretion of bile. The value of the shower bath is known to all, yet it is too indiscriminately used. Great prudence and watchfulness is necessary in its application. Should atony prevent a suitable re-action and warmth over the surface, it may do serious and lasting injury. A pitcher of cold water poured over the back part of the head is often grateful as well as useful to the patient.

"In the second stage of insanity, a more tonic treatment becomes necessary, and it is to be regulated according to the age, constitution, and temperament of the patient. The various preparations of iron, mineral acids and quinine, nitrate of silver, followed with a solution of iodine to prevent a discoloration of the skin, conjoined with suitable moral treatment, will often decide the future prospects and destiny of the patient.

"In moral treatment, no more restraint should be used than is absolutely necessary for their own and others' safety. Chains are never necessary in an institution. You cannot chain the human mind, nor cure a patient in chains. I have never used one. Pinel is entitled to an enduring monument of fame, for having been the first who dared to break off the chains of the maniac, throw open his prison door, bring him forth to the light of heaven, and to the enjoyment of the essential elements in their purity."

THE AURISCOPE.

DR. WARDEN, the inventor of this ingenious and useful instrument, has related the following cases in the September Number of Dr. Cormack's Journal.

"*Case* 1.—A. H., a maidservant, aged 20. My attendance was required in consequence of acute abscess of the right labium obstructing the evacuation of urine, and attended with symptoms of general fever. This condition was speedily relieved by the ordinary means. It afterwards appeared that leucorrhœal discharge had existed for an uncertain time, and in consequence of the renewal of the abscess and suffering, a more particular examination was instituted, the result of which was the detection of pathological conditions not ordinarily recognised as marking such an affection, and the knowledge of which has not entered into the indications of treatment in such cases. In explanation it is to be observed, that by the employment of the speculum above described, not only do we throw every requisite supply of light upon the parts at the extremity of the tube, but every point of the entire walls of the cavity is made to display its picture upon the interior prism in all its reality of visible aspect, just in the same manner, and with the same truthfulness, as the pictures of the landscape in the *camera lucida*. By the use of this instrument in the case under notice, the os uteri was found turgid, rubescent, and giving issue to a profuse purulent discharge; and the examination of the walls of the vagina obtained through the medium of the second prism presented different diseased states, exemplifying a diversity of pathological conditions to which the mucous membrane is liable. In the neighbourhood of the os uteri, the inflammation was vesicular; in different portions of the parietes of the vagina there were patches of ulceration, of more and less vivid inflammation, and of warty vegetations, giving distinct indications for corresponding differences of topical treatment, and for which the speculum employed by me afforded all necessary facility upon the removal of the intervening glass tube. Within a fortnight these varied morbid conditions of the mucous surface have been treated with appropriate dressings, and a case which otherwise must have undergone an uncertain management and duration, will immediately admit of complete cure.

"*Case* 2.—Mr. G. S., aged 43, of bilious and leucophlegmatic habit, has suffered from impaired hearing, and disease in both ears, since his boyhood. The symptoms at the commencement are not distinctly remembered, but as deafness has been prevalent in his family, it is probable there was a morbid delicacy and predisposition affecting the organs in question. A marked and permanent aggravation of the dulness of hearing took place about 20 years ago, in the course of typhus fever. Constitutional and local treatment have been employed on various occasions, attended with slight and temporary improvement, but without preventing the progress of increasing loss of hearing. All remedies had been discontinued, as hopeless, for nearly two years, and hearing is produced only by bawling as to one on the house-top, the patient erecting the auricle with his hand to catch every vibration of sound. Upon examination with the auriscope the diseased condition of the affected organs gave little or no room to expect benefit from local or other treatment. The auditory passages were cleansed by washing with the hair pencil, when the cuticular lining was found blanched and thickened, as by maceration, and flocculent portions were readily separated from the surface, which was without the natural conditions of sensibility and cerumінous secretion. Upon carrying inspection to the situation of the membrana tympani, which is effected with facility by means of the prismatic auriscope, I found, in the right ear, that the bottom of the passage was occupied by a spongy organized mass protruding from the chamber of the tympanum, while, on the left side, a crescent-formed fragment of the drum only remained, and that having a lardaceous appearance, as if quite disorganized, and in progress of decay. In

such unfavourable circumstances, I was chary of local interference, and advised a residence by the sea side, or in the country, while pursuing a course of mineral and bitter tonics, and general corroborating regimen. An astringent infusion was directed to be used as a wash for the external ears twice a-day, with attention to position in its employment, so as to avoid its penetrating to, and prematurely stimulating the diseased and feebly organized parts. After the lapse of a fortnight, the patient reported his health much improved, and his hearing also bettered. A weak zinc lotion and ointment were employed during another interval of a fortnight, and yesterday, the 12th instant, I had the opportunity of examining the ears, when interesting changes of their condition were displayed by the auriscope,—and at same time the patient expressed high satisfaction that the day before he had been able to join in the psalmody of the church, which he had previously been incapable of, such was the deficiency of hearing. The external passages of both ears, which at first had a general sodden and oozing surface, were now almost free from moisture, compact and regular in texture, and some ceruminous secretion showed itself in the right ear. The fungus seen at first examination had shrunk and disappeared, and a pretty uniform dusky structure filled the cavity of the tympanum. In the left ear, the relic of the membrane of the tympanum, formerly seen opaque and unorganised, had lost a little of its superficial area, but what remained had a healthy pinky vascularity and translucence like red jelly. Moreover, the white head of the malleus was seen in situ and in connection with this important fragment, although its handle stood in bold outline in the dark chamber of the tympanum.

"It is not to be expected that a case having such a history, and where essential parts of the auditory apparatus are deficient, should admit of any highly satisfactory issue in the way of cure. But it may be confidently anticipated that the same means which have been attended with such a measure of advantage, will be of yet greater service in process of time. A more vigilant inspection of the state of the parts affected will now be necessary, that the remedies adapted to their visibly more active condition may be employed, and their effects observed.

"*Case* 4.—I owe to your kindness my opportunity of seeing this and other such interesting cases under your charge in the Royal Infirmary. J. C. aged 20, a native of Sutherland, of strongly marked scrofulous constitution, has had a running from both his ears since he was eight years of age, attended with growing dulness of hearing: about 20 months ago the deafness became complete, after exposure to cold, which induced the symptoms of acute inflammation, with profuse suppuration, and the discharge of hard lumps from the ears. Since that time all his communications with others have been carried on in writing, a channel of intelligence of which happily he has ready command, as well as a power of expression beyond common. In his descriptions he essayed in no mean terms, *pingere sonum*—the rushing of the wind—the rustling of the leaves:—'and the murmuring main was heard, though scarcely heard to flow.' Having come to Edinburgh in the hope of recovering his lost hearing, he was fondly persuaded the impressions belonging to the sentient nerves were referrible to, and indicative of some feeble power in the proper auditory function. A watch, however, applied to the auricle and to the pericranium, or held between the teeth, gives no sense of hearing, neither do the loudest tones of the voice attract any attention; but what is still more conclusive of the entire abolition of that sense, his own voice is unperceived as giving sound, although he speaks with strong intonation. After washing the auditory passages, which were covered with an abundant slimy secretion, the view of their interior by means of the auriscope gave ample exhibition of the extent of the injury inflicted by continued disease. Not a vestige of either of the membrana tympani remained. The chamber of the right tympanum was partially occupied by pale granulations, which were seen immediately to become more vascular, and studded with bloody points on being lightly brushed with a hair pencil. The left tympanum was wholly empty, and its posterior wall

was covered with a glairy pellicle, through which the *fenestra ovalis* was distinctly visible. An active seton had been some time in operation on the nape, and had relieved the head of oppression and other uneasy feelings; I therefore ventured on an attempt to alter the diseased surfaces, and to check the discharge, but action habitually morbid, manifested itself, in fungous granulation, and no benefit resulted. The case, contrasted with the former, serves to exemplify the ruling influence which the state of the general health and constitution exercises over diseases of the ear, and the remedies employed: and they are sufficient to argue the important aid to be derived from the prismatic auriscope, for revealing the features of disease, for dispelling the pernicious mystery in which the affections of these important organs have been hitherto invested, and for bringing them within the pale and protection of enlightened science.

"*Case* 5.—Mr. P:, aged 45, has suffered from deafness for many years, resulting from chronic inflammation of the organs of hearing. In 1838, when hearing was all but completely lost, he repaired to Berlin to obtain advice of Dr. Kramer, and placed himself under his care for a considerable period. That eminent practitioner, according to his narrative of the case now before me, judged that the right ear was incurably deaf, owing to paralysis of the auditory nerve and other causes. The left ear alone, therefore, was subjected to treatment, in the opinion that the disease there consisted in and depended on stricture of the Eustachian tube, and an altered condition of the membranes therewith connected. According to this view, the measures employed were wholly aimed in one direction, namely, to the quarter of the Eustachian tube: Dr. Kramer at same time noticing as his reason for abstaining from interference by the more accessible and important route of the external ear, that thickening of the membrane of the tympanum as a consequence of chronic inflammation, was an affection by no means curable. His efforts were directed to the dilatation of the stricture by a strong stream of air injected upon it by the air-press and catheter; afterwards the use of the catgut bougie was attempted, but the irritation excited forbade its being persevered with. Through the daily use of the air-press, hearing was ultimately amended to the extent of the patient's hearing Dr. Kramer's watch at the distance of from one to two inches from the ear. This slight improvement was regarded as a great benefit at the time, and Mr. P. who has subsequently experienced a gradual melioration of his hearing, is disposed to attribute this to the effect of the air-press as employed by Dr. Kramer. In expectation of more complete recovery, Mr. P. recently applied for my opinion of its probability, and the appearances presented by the auriscope enabled me to conclude that there was the fairest prospect of this in the remediable nature of the morbid state of the membrane of the tympanum. The appearances which I ascertained were these:—The lining of the auditory canal was healthy, but without ceruminous secretion. The membrane of the drum in about one-half of its extent bore a perfect resemblance to the common integument of the body, being smooth, dense, and of uniform rosy vascularity; the remaining portion of the drum was of an opaque white colour, assuming a dark semi-translucency in its centre, not larger than a mustard seed. This darker spot had been mistaken by several observers for a perforation in the membrane, and this error had given occasion for a much less auspicious prognosis than the actual state of the case warranted. With the opportunity which is afforded by the prismatic auriscope of ascertaining the state of disease, and of watching and observing fully the effect of the remedies employed, I think that attempts may be safely made in this case to promote absorption in the opaque portions of the membrane, and to restore to a greater extent its natural elasticity and serviceableness for conveying the vibrations of sound.

"These few cases must serve in the mean time to illustrate the service afforded by the prism in revealing fully the characters of darkly seated disease,—a sequel to them I defer to another opportunity. I am, dear Sir, &c.

"ADAM WARDEN, M.D."

Spirit of the Foreign Periodicals.

DEATH OF M. GEOFFROY ST. HILAIRE.

AFTER a long and distinguished public career, this eminent philosopher was gathered to his fathers on the 22d of June last. His funeral was attended by an immense number of the leading *Savans* of the French Metropolis, and many touching and eloquent orations were made over his grave.

The cords of the pall were held by Baron *Dupin*, President of the Academy of Sciences; M. *Dumas*, Dean of the Faculty; M. *Ferrus*, President of the Academy of Medicine; and M. *Chevreul*, Director of the Museum of Natural History. Among the mourners were MM. *Arago*, *Florens*, *Dumeril*, *Mathieu*, *Jomard*, *Rayer*, *Blainville*, *Pariset*, *David*, *Victor Hugo*, &c. When the procession had reached the gates of the Pere la Chaise Cemetery, a number of the work-people belonging to the Jardin des Plantes, spontaneously, unyoked the horses, and drew the hearse to the place of sepulture—a touching homage to the worth of the deceased.

M. *Dumeril*, the organ of the Zoological section of the Academy, recapitulated, in language of noble simplicity, the great services which M. *St. Hilaire* had conferred on Comparative Anatomy and Zoology. M. *Chevreul* then spoke very feelingly in the name of the Museum, pointing out the deep obligations it was under to the zeal and generosity of the Founder of the Menagerie. M. *Dumas* and *Pariset* followed; the former recorded the high merits of the illustrious author of Philosophic Anatomy as one of the professors to the Faculty of Sciences; and the latter expressed, in the beautiful language which always characterises his style, the solemn regrets of the Academy of Medicine, which had the honour of ranking the deceased among its Associate Members. To these succeeded M. *Serres*, who, in a strain of heartfelt eloquence, proclaimed those lofty ideas of Unity of Composition, of Organic Analogues, and of the Laws of Compensation in Animal Development, with which the name of *St. Hilaire* will ever be associated.

The following passages from several of these funeral orations will be found to touch upon the most memorable events in the scientific life of this venerable student of nature.

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"Death, in striking down *Stephan Geoffroy Saint-Hilaire*, has at length removed from the scene the last of those administrative professors of the Museum, whose nomination dates so far back as the 10th of June, 1793—the epoch of the re-organisation of the Museum of Natural History. Three months previously, under the auspices of the venerable *Daubenton*, and in the 21st year of his age, he had been admitted as sub-keeper and demonstrator—not of Zoology, of which hitherto he knew scarcely anything—but of Mineralogy in this establishment. How came it, it may be here asked, that a man, who for half a century was entirely engaged in the study of organised and living matter, without recoiling before the most abstruse and profound speculations, should have commenced his career as a Mineralogist? The fact is, that it was the resuk of the pressing recommendation of the fellow-labourer of *Buffon*, the famous *Abbé Hany*, who, having instructed the young *Hilairs* in the knowledge of Crystallography, had formed the highest esteem for his talents and character. The pupil, ere long, had a memorable opportunity of testifying his gratitude to his friend and teacher. The *Abbé*, falling under the suspicions of the Convention that was then in the plenitude of its power, was cast into prison, and would probably have fallen a

sacrifice to the popular fury, but—thanks to the noble daring of the young *St. Hilaire*—he, with some other ecclesiastics, made their escape from their dismal confinement before the fatal 2d and 3d of September. This act of generous devotion soon received a worthy recompense, by opening up to the youthful student's ambition the career in which he afterwards so highly distinguished himself. By the patronage of *Hany*, *Daubenton*, and *Lacapede*, he was elected their colleague at the Museum, although he had not yet passed the 21st year of his age.

"At first he devoted his attention, with the most unwearied zeal, to the examination of Vertebrate Animals, and so assiduously did he pursue his studies, that, in less than four years after his appointment, he had already grouped and arranged the numerous collections of the Museum. He had moreover published a Memoir, in which the idea of the *unity of Organic Formation* is clearly announced as a result of his anatomical researches. It was he that set the example of keeping live animals at this national establishment, so that not only their habits might be watched, but also the connection between these habits and the organisation of their bodies, as revealed by dissection, might be more accurately determined.

"Such was the commencement of that Menagerie, which, under the sole direction of M. *St. Hilaire*, has become the model of an institution that is the envy of every nation in Europe.

"Joining his acquirements and efforts to those of his friend and fellow-labourer, *George Cuvier*—whom he had invited to Paris—he became with him one of the founders of the Natural Classification of the first two families or groupes in the Zoological series, the Mammalia and the Birds.

"Animated by an enthusiastic love of his favourite science, he was one of that noble band of *Savans*, who accompanied Buonaparte to Egypt, and shared in all the dangers and glories of that memorable campaign. He travelled as far as the Cataracts of the Nile, exploring with the utmost zeal all the natural productions of the country through which he passed. His name is inscribed in the pages of that brilliant episode of our history, associated with those of *Denon*, *Larrey*, &c.

"After the capitulation of Alexandria, when the English Commissioner claimed, in virtue of the terms of the treaty that had been formed between the two armies, the possession of all the scientific collections that had been made by the different Savans in the land of the Pharaohs, *Geoffroy St. Hilaire*, by a bold and eloquent appeal, succeeded in preserving his collection to his own country; and thus, by his energy and courage, he was the means of enriching the galleries of France with some of the most interesting *souvenirs* of the Egyptian Expedition."

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"In 1808, he was appointed by Napoleon to execute the duties of a delicate mission to Portugal; and he succeeded admirably in effecting the object of his journey. Another person might have availed himself of the privileges of war to obtain possession of the rich collections of Natural History at Ajuda; but *St. Hilaire*, in accordance with the laws of the most strict justice, did not so abuse the power entrusted to him. All that he required was a mutual exchange, that could not fail to be of advantage to both countries; and thus the duplicate specimens of the Portuguese collection were obtained to enrich that of the French Museum, and those of our establishment served to fill up in part the deficiences of the Ajuda Gallery.

"The events of 1815 brought into conspicuous view the tact, as well as the justice, that had regulated our compatriot's conduct; for at this period, when France was a second time over-run by the armies of the Coalition, the Portuguese minister declared to the Duke of Richelieu that he had no demands to make against the French government for the specimens which had been withdrawn, seven years before, from the museums of his country; expressly declaring

that they had not been taken away by any force of conquest, but had been readily exchanged for others that were now the property of Portugal."

(It is pleasing to find a French writer in the present day protesting, although in an indirect manner, against the robbery of the works of art and science that was perpetrated on a grand scale by his fellow-countrymen, during the wars of the Republic and Empire.)

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"The science of organic relations and analogies in Anatomy, of which a few sparks did shine forth in some parts of *Buffon's* writings, was checked, and, as it were, drowned in the wearisome details with which *Daubenton* had subsequently overlaid it. It was *Geoffroy* who, by one of those bold and penetrating glances of genius which give rise to a new era in natural knowledge, disengaged it from the trammels of a long-established custom.

"It was when our illustrious countryman was seeking to explain to himself the mechanism of the bony head in the fish, and to reduce the numerous pieces, of which it consists, to the known type of the cranium in vertebrated animals, that he first caught a glimpse of that curious and most interesting Law of Organisation which he afterwards worked out in so beautiful a manner.

"When the happy thought suggested itself to him of comparing the various pieces, of which the cranium in the fish is composed, with the osseous nuclei in the head of the human embryo, it may be truly said that he took the first, the initiatory step in that memorable career, which subsequently led to the elucidation of a multitude of questions that had hitherto puzzled and perplexed all previous Naturalists and Comparative Anatomists."

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"It is to *Geoffroy St. Hilaire* that we owe the important discoveries that the Embryo of animals is not primarily the mere miniature copy of their perfect and mature development; and that, before an animal assumes the permanent form of its organisation, it passes through a series of forms which are of intermediate and of transitory existence.

"It is to him that Comparative Embryology—so long neglected because it seemed to be almost objectless—has of recent years become one of the very fundamental parts of Zoogeny—that indeed which commands and over-rules all the rest.

"The earth becomes to our contemplation a vast laboratory, where there is continually forming a succession of new beings in a progressive and ascending scale, and all of which are linked together in an unbroken chain, from the Infusoria, the starting-point of nature, up to the Mammalia and to Man himself, the highest limit of its efforts:—a thought, the depth and wisdom of which are every day confirmed by the discoveries of Palæontology. According to this view the entire animal kingdom is regarded as a single being; which, during its formation, is arrested at various periods of its development, and thus determines, at each epoch of its interruption, the distinctive characters of classes, families, genera and species."

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M. *St. Hilaire* appears to have been truly happy in the social, and especially in the domestic, relations of life. For many years before his death he had become entirely blind; but he always retained a serenity and cheerfulness of character that endeared him to all his friends. The affection of a devoted wife, and the solicitude of a fond daughter, were ever near, ready to soothe and comfort him:—

"After having received," says one of his panegyrists, "so much instruction from this soul in its strength, it only remained that we should learn of him how we ought to die. Like *Galileo*, he had lost his sight; but the calmness of his disposition was never ruffled for a moment; he still smiled at the mighty wonders of Creative Wisdom in Heaven and in Earth, which he still saw and dwelt upon

with the eyes of his mind. Such was the peace of a man, who had long accustomed himself to meditate on the secret plans of an over-ruling Providence. What is more sublime than this death of genius, which, when so directed and controlled, is the very sanctity of the intellectual powers? With smiles he approached to the very fountain of truth, and joyfully awaited the hour of his departure. A few days before his death, when thankful for the kind attention of domestic love that watched over his bed, he exclaimed, 'Je suis presque heureux d'être aveugle.' Happy old man! Who is there among us who does not long for such an end?"

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"Twenty years ago, when a stranger entered our Academy of Sciences, he could not fail to be struck with a sort of holy respect, on seeing around him so many men of high genius, the glory of France, and the luminaries of their age. There the geometrician might behold *Laplace*, *Ampere*, *Legendre*, and *Poisson*; there the student of phyical science saw *Hany*, *Berthollet*, *Chaptal*, and *Vauquelin*, and the naturalist met with *Jussieu* and *Desfontaines*, *Cuvier*, and *Geoffroy St. Hilaire*.

"All these men, who had sprung up during the time of the Republic, and whom the Empire had promoted to dignity and distinction; men of iron for labour, and of fire for thought, and whose discoveries have supported, but without paling, the brilliancy of the contemporaneous achievements of policy and war—all have at length disappeared from among us; and this grave, at which we now stand, is about to close over one of the most distinguished of their number. In this day of mourning alike of science and of our country, may our souls be lifted up to the contemplation of those great men who, in the course of a few years, have vanished from our sight; and may the rising generation learn to understand that, in the absence of those social crises which, though terrible for the time, yet work a salutary effect on the human race, they may still find, in the fulfilment of the calm duties of life, and in the prosecution of scientific and literary pursuits, inspirations as elevating and hopes as dignified as ever kindled the breasts of those who have gone before them!"

RE-INTERMENT OF BROUSSAIS.

THE remains of *Broussais* were recently exhumed from the Cemetery at Pere la Chaise to be deposited under the statue, which has been erected to his memory at the Val-de-Grace. As a matter of course, there was another imposing ceremony got up on the occasion, and deputations from a variety of learned Societies attended, to renew their respectful homage to the Napoleon of Medicine. Two funeral orations were pronounced, before the body was lowered "dans ses pénates eternels." Here is the exordium of the first. "Although the ceremony, which has brought us together this day, is not exempt from all the impression of funeral recollections, yet there now prevails in our bosoms a sentiment of pious joy, like that which attends the consecration of a glorious name, or the return of the head of a family to his home, after the absence of many years. The remains of M. *Broussais* are at length committed to their proper resting-place; for the true abode of the distinguished dead is in that place which they had adopted by their love during life, and which they have rendered famous by their own imperishable renown." . . . . . "For the last time, adieu, *Broussais!* In separating ourselves from thee, receive anew the expression of those sincere regrets which thy loss has inspired, and which are only soothed by the thought that one of our professors still worthily bears the glorious name which thou hast delegated to him."

BERZELIUS ON THE URINE.

THE distinguished Swede, after giving a most elaborate account of the composition of this animal fluid, proceeds to point out how much its composition is affected by a variety of substances when taken into the stomach. The following examples will abundantly prove the truth of this remark.

After the free use of mercurial ointment, the Urine is found to contain salts of this metal in minute quantities. To detect their presence, we have only to dry the sediment that is precipitated, and then to calcine it: globules of mercury may thus be obtained.

Nitre, the yellow Prussiate of Potash, and many metallic salts, especially those of Iron, may readily be discovered in the urine, not long after they have been swallowed.

After the employment of large quantities of any ferruginous preparation, the urine sometimes acquires a feeble blueish or greenish hue—owing, says *Berzelius*, to the union of the Iron with the ferro-cyanic Acid, which may be generated by the decomposition of different animal matters within the body itself.

Soon after Tartaric or Oxalic Acid has been taken into the stomach, the urine often deposits, as it cools, oxalate or tartrate of Lime—a deposite that is increased by the addition of the chloruret of lime to the fluid. The Malic, Citric, and Tartaric Acids render the urine more or less decidedly acid. Succinic Acid also reappears in the urine. Not so, however, with the Benzoic Acid; for this seems to become transformed within the organism into Hippuric Acid—according to the observations of *Wohler*, *Boyé*, and *Leaming*.

The infusion of Nut-Galls is known to pass into the urine; for a black precipitate is found to be formed on the addition of a ferruginous solution. After the administration of Iodine, the iodurets of Potash and Ammonia are discoverable. The alkaline Carbonates also, the Borates, the Silicates, and the Chlorates may be detected by the addition of their respective re-agents. The same holds true of the yellow Prussiate of Potash: the red Prussiate is converted into the yellow. The Sulphuret of Potassium is absorbed in part only, without alteration; part becoming oxydised during the circulation, and converted into a sulphate.

The Vegetable Salts, having Potash and Soda for their basis, are transformed into Carbonates; for the urine is then found to be alkaline, and to effervesce on the addition of an acid. The same phenomenon is often observed when a person has been eating very freely of certain fruits, as apples, cherries, strawberries, and raspberries, which contain the malate or the citrate of potash. This fact explains the utility of these fruits occasionally as a remedy in uric acid gravel.—*Journal de Pharmacie.*

MINERAL SALTS, TAKEN BY THE MOUTH, DISCOVERABLE IN THE URINE.

DR. *Kramer*, professor of chemistry in the university of Milan, read, in the course of last year, before the Imperial Institute of Lombardy, an elaborate account of his researches for the purpose of discovering in the Blood, the Urine, and other products of animal Secretions, various mineral Salts that had been taken into the stomach.

It would be tedious to report the details of his experiments; all that we propose to do at present is, to present the most important conclusions which he has deduced from his extensive and very carefully conducted investigations.

1. The salts with alkaline bases, which we are in the habit of administering to

man and the lower animals, pass with facility into the blood, urine, and even—this holds true more especially with the Iodure of Potassium—into the sweat and saliva.

2. The blood and urine, when once charged with alkaline salts, free themselves of these foreign matters with very rapid progression.

3. The Salts of Barytes (at least the Chloruret) pass in small quantities into the blood and urine: it is, however, difficult to detect their presence by the ordinary chemical re-agents.

4. The vapour of certain substances, when inhaled into the throat, are absorbed and pass into the circulating fluids with a truly remarkable rapidity; as is proved by experiments with the Vapour of Iodine, traces of which are discoverable in the blood in half an hour after the commencement of the inhalation.

5. Very many of the compounds of the Metals, properly so called, with other substances, pass into the blood and urine; the presence of the metal may generally be discovered in both fluids. The metallic salts, which have been chiefly subjected to experiment, are the sulphate of Mercury, the sulphuret of Antimony, the tartrate of Antimony, the muriate of Silver, the Carbonate and Sulphate of Iron, and, lastly, the various Combinations of Copper.

6. Some of the metallic Salts and Compounds—for example, those of Copper—may even be detected in the blood and urine eight or ten days after the internal use of the preparation has been quite suspended.

7. Iron, administered by the mouth, is rapidly absorbed and passes into the blood and urine; it should be borne in mind, however, that the urinary secretion in health contains a minute quantity of this metal.

8. Copper also is found, in a still more minute quantity in healthy urine; but it seems probable that the existence of this metal in animal fluids is derived from the copper vessels employed in domestic economy, and also from not a few articles that are used for food. If copper is present in the urine, we may fairly suppose that it may also exist in the blood.

9. Normal Blood always contains a certain quantity of Manganese: the urine also does not appear to be quite exempt from it.—*Giornale dell' Instituto Lombardo.*

Remarks.—The rapid absorption of so many metallic and other salts into the animal economy is a subject of great interest to the practical physician, as well as to the mere physiologist. It suggests, among other considerations, the necessity of more caution, on the part of medical practitioners, than is generally used in the administration of these substances. How must the system become thoroughly impregnated with such a metal as Mercury, when the patient has been taking blue-pill, for example, two or three months without intermission! One might almost believe the assertion of the once famous St. John Long, that he could extract globules of pure mercury from the skin of some of his patients.—*Rev.*

M. MALGAIGNE ON THE ABUSE OF TENOTOMY IN VARIOUS DEFORMITIES.

Our readers are probably aware that the subject of M. *Guerin's* alleged almost invariable success in the treatment of even the most unpromising deformities by the operation of dividing those tendons and muscles which are supposed to be contracted, has been recently brought before the Royal Academy—of which he is a member—by M. *Malgaigne*, and that the discussion thereon ensuing has been carried on with no little asperity by both parties. We have already more than once expressed our own opinion as to the merits of the "grand ortho-

pœdiste:" we shall now select a few passages from a recent paper by *M. Malgaigne*, in which he comments upon and criticises the doctrines and practice of his opponent. * * * * * *

Suppose, says *M. Guerin*, that a surgeon has to treat a case of deformity of the foot, when all the muscles, with the exception of two or three, are in a state of paralysis. Those, which are not paralyzed, are as a matter of course, retracted, and draw the foot in the direction of their action. If we cannot indeed effect a cure of the paralysis by Tenotomy, we can, and we ought to, correct the vicious direction of the foot by dividing the tendons which occasion it. *Cela est fait.* Forthwith the critic launches his thunders against the operator and the operation, on the ground that he never heard of Palsy being treated by the division of the tendons of the affected part! We may here observe that, in the same limb, there are not unfrequently some muscles which are palsied, while others are retracted; and therefore surely we may fairly presume that the one set may be divided, while at the same time we endeavour to excite the other set to action.

"Now we beg to offer a few remarks on the doctrine here inculcated. The first point to be determined is to ascertain what the author really means by *retracted* muscles. Does he allude to the normal and physiological retraction, which always exists in healthy muscles when opposed to such as are paralyzed? We may fairly infer, from the above-quoted paragraph, that such is his meaning; and it is very certain that, in the instance of the paralytic foot to which we have alluded, the tendo Achillis was divided by M. *Guerin* for the simple retraction of the muscles of the extremity. If such be the case, the doctrine here propounded is so utterly inconsistent with all the sound principles of enlightened surgery, that we need not surely waste a line in combating its error. Never will any muscle, when acting by its physiological action alone, prevent the foot from being reduced to its normal direction by the effort of the hand, or by the application of a boot. If you divide the tendon under such circumstances, what good do you expect to result from it? Either a re-union of the divided ends will take place, and the muscle will recover its contracting power; or this power will be entirely lost, and then, in place of a partial, you will have a complete paralysis. Is this a result to be desired?

"Let us see what was the result of such a line of practice in a case reported by M. *Guerin*.

"A child, six years old, was some time ago admitted into the infant Hospital with the following deformity:

"In the second year of her age, she had been seized with convulsions, and these had been followed by palsy of the left leg. M. *Bouvier*, who was consulted about this time, recommended the use of a spring-boot, with the view of supporting the weak extremity, advising at the same time that the case should be left to the natural restorative efforts of the constitution. About twelve months afterwards, the paralysis had very sensibly diminished; but the foot still hung down and was drawn somewhat outwards. M. *Guerin*, who now saw her, pronounced the case to be one of *pied-botvalgus*, and, (according to the statement of the child's mother,) he at once proceeded to divide the tendo Achillis. On the young creature being discharged from the hospital some time afterwards, he assured the mother that the child would be certainly cured of the club foot, but perhaps not of the paralysis. Now, so far from this being the case, what is the state of the child at the present moment? The foot is precisely in the same condition as it was before the operation; the gait is excessively unsteady; the spine has begun to be curved; the affected leg is somewhat shortened, and the size of its calf is considerably less than that of the other leg. It must be quite unnecessary to comment on the practice pursued in this case; it was irrational, and therefore altogether unjustifiable. After no little *consideration of the subject*, I do hot hesitate to assert, as a principle of surgical practice to which there

is no exception, that it is utterly irrational to divide healthy muscles in demiparalysed limbs."

M. *Malgaigne*, notwithstanding this assertion, willingly admits that, in certain cases of pathological contraction of a limb, the section of the retracted tendons is quite justifiable, and may be productive of much good. For example, if the Gastrocnemii muscles are in a state of such rigid contraction that the heel cannot be brought down to the ground, or the foot cannot be easily incased in an ordinary boot, the section of the tendo Achillis may be perfectly warrantable, as the patient may thereby be enabled to walk with much greater ease and comfort than he could before. The same may be affirmed of a case where the knee-joint has become flexed, in consequence of the predominance of the action of the flexor over that of the extensor muscles of the leg; for surely it is better, if a patient must have an anchylosed knee-joint, that the limb should then be in an extended than in a bent position.

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"In January, 1840, M. *Guerin* informed the Acadamy of Sciences that he had, three weeks before, divided the biceps, semi-tendinosus, semi-membranosus and rectus internus muscles on each side in a young girl, for an incomplete luxation of the knee-joint. On the day after the operation, the deformity, we are told, was reduced to a simple normal flexion of the part; and after the patient had been kept in the Orthopœdic Hospital for nine months, the report proceeded to state that the cure was complete, with the exception only of a certain degree of permanent flexion of the articulation.

"Now for the *real* history of this case. The girl, when seven years of age, had been seized with convulsions; after one of the violent attacks of which, the contractions and paralysis, with which she is now affected, were first observed. A variety of means were tried for her relief; but they all failed; and she was therefore sent to the Saltpetrière as a poor helpless creature. M. *Mitivier*, touched with compassion at her pitiable condition, recommended the case to the notice of M. *Guerin*, who admitted her into the Hospital of Children, and performed two tenotomic operations, in the first of which he divided thirteen, and in the second five muscles or tendons, for the relief of her various deformities. Now let us hear what was the actual condition of this poor creature, when she was sent back to the Saltpetrière, after having been all but cured. (!) She was then, and still continues as miserably helpless as ever; and in addition to her helplessness, she now suffers a good deal of pain in the site of the wounds that were made in different parts of the body.

"Another memorable case, in which the great Orthopœdist divided no fewer than 42 muscles and tendons at one séance and 'sans desemparer,' was quite a little creditable to the veracity, as well as the judgment of the operator. M. *Phillips*, who allowed himself at first to be so far misled by the alleged success as even to adopt a similar line of practice in an analogous case, has candidly confessed (in his Memoir, de la Tenotomie Sous-cutanée, p. 18) that in neither instance was the operation productive of any decided benefit."—*Journ. de Chirurg.*

Remarks.—So much for the performances of M. *Guerin*. As is the case with all great *clacqueurs*, the actual performances of this gentleman fall far short of his professions. But the blame should not fall upon him exclusively; there is more than one scientific (!) quack in the list of the Royal Academicians. One of his most zealous assailants is a gentleman who actually recommended—ay, too, and he put his recommendation in practice—the forcible extension, by means of a powerful mechanical contrivance, of semi-anchylosed joints. After the death of one or two patients, who were subjected to this horrible contrivance, the scheme was dropped.—*Rev.*

Section of the Flexor Tendons of the Knee in White Swelling.

One of the most successful applications of Tenotomy is unquestionably that of dividing the flexor tendons in certain cases of diseased joints, with the view of insuring the perfect quietude of the articular surfaces. It has been tried by several surgeons in White-Swelling of the Knee, and, we rejoice to say, with very promising success.

M. *Ribes*, a man of great experience, has accorded his opinion of the practice in the following words:

"The medical art is rich in therapeutic remedies for the relief of White-swelling of the Knee-joint; but, in almost all cases, a simple cause has made them to prove utterly inefficient. This cause is the forced and permanent contraction of the flexor muscles of the leg. *Eh'bien!* Why should we not perform, at the proper time, the subcutaneous section of the tendons of the Semi-membranosus, Semi-tendinosus and Biceps muscles, which keep up this uneasy state of things? By this easy operation, we may rationally hope not only to relieve the existing pain and distress, but also very materially to promote the formation of anchylosis, and consequently the cure of the disease. This simple and safe operation is already admitted and recognised by surgeons."

M. *Ribes* is one of those men whose name alone is worth a multitude of authorities, and whose simple approval will often weigh more than the most elaborate commendation of others.

M. Rognetta on the Dynamic Treatment of Cancer.

Let us first inquire what is meant by the phrase of Cancerous Diathesis, and what is the nature of the dynamic condition that accompanies it. We have the choice of two doctrines or theories on the subject.

According to one of these, the existence of the diathesis in question precedes, in an occult manner, the formation of the local cancerous tumour; whereas, according to the other, it is the consequence and result of the absorption into the general system of the poisonous matter from that morbid growth. The late Baron *Boyer* maintained the first of these opinions, and insisted upon its adoption with great earnestness; but most of our leading metropolitan surgeons in the present day—*Roux*, *Velpeau*, *Gerdy*, *Lisfranc* and *Blandin*—reject the doctrine of primitive diathesis, and therefore regard the disease of Cancer as strictly local in its nature at first. The partisans on both sides appeal to the results of operations; but, alas! the conclusions, to which they arrive, are very different. The one party maintains that there is very generally a relapse after the diseased growth has been extirpated; while the other contends that such is not the case, if the operation be performed sufficiently early.

M. *Rognetta* seems to adopt an intermediate opinion; for we find him saying that, "it is perhaps more reasonable to admit that the local disease and the constitutional diathesis are developed simultaneously and proceed *pari passu*, and that the latter continues and advances after the tumour has been removed, just as much as when it is allowed to remain. There are even some reasons for believing that the re-action, which inevitably follows upon any severe surgical operation, must tend to accelerate the progress of the constitutional affection, if this be not counteracted by the administration of appropriate dynamic remedies. This perhaps is the reason why some practitioners of large experience have ultimately come to the conclusion of dissuading in all cases the removal of a truly cancerous tumour,

in place of trying to find out any therapeutic means to arrest the advance of the morbid diathesis."

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M. *Rognetta's* pathological views are partially expounded in the following passage: they appear to us to be in some points very fanciful.

"We do not say, with the Physiological School, that Cancerous disease is the product of Inflammatory action; but we are quite prepared to assert that the dynamic condition of this affection is in all its stages of a decidedly *hypersthenic* character, and also that it exhibits many points of resemblance with Chlorosis and Scrofula, more especially with the first of these morbid conditions. This assertion may seem strange; but we shall now endeavour to establish its probability.

"During the development of a cancerous growth, the system very generally will be found to exhibit symptoms of hypersthenic excitement; and, although the health may seem good, there is almost always a predisposition to inflammatory and congestive diseases. Be it remembered, that a hypersthenic state of the body may exist without any actual excess in the quantity of the circulating fluid; and moreover, that this state, when it affects a great system,—the vascular tree, for example, as in Cancerous and Chlorotic patients—cannot be effectually got rid of under the mere influence of bleedings, whose action is but transient and of short duration. We must therefore have recourse to certain dynamic remedies, which exert an elective operation on the system that is chiefly implicated; and, when we have found such, we must persevere in their use for a very considerable length of time. We know that some eminent pathologists see nothing in Cancer and Chlorosis except mere affections of the blood: but this is certainly a great error. They mistake the consecutive effect for the primary disease, and, by following a false path of inquiry, they inevitably land in recommending a faulty practice."

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As to the therapeutic part of the question, M. *Rognetta* seems to dwell chiefly on the high importance of diminishing, and, if possible, subduing the hypersthenic condition of the vascular system, whether an operation for the removal of the cancerous tumour may be deemed expedient or not. It is from having neglected to attend to this constitutional affection before, as well as after, the performance of any surgical operation, that the disease is so often observed to return, even when every portion of the morbid texture has seemingly been utterly removed.

Our author carries his peculiar views so far that he even sees in the pallid hue of the skin, when the disease has reached its second stage, that of softening and ulceration, evidences of the hypersthenic excitement of the capillaries of the skin—the circulation in these vessels becoming gradually more and more completely extinguished, and consequently the process of assimilation, which depends upon their healthy condition, being quite interrupted.

"Examine," says he, "the large vessels, and you will find them hard, thick and resistent, is in all genuine hypersthenic affections; and moreover do we not always observe, that everything which excites the vascular system—as, for example, the use of a stimulating diet and spirituous liquors—very strikingly aggravates the state of such patients, and always increases their pallor and weakness?

"The icteric discoloration of the surface, in the more advanced stages of the disease, is the effect of the extreme decay of the organic functions and the consecutive impoverishment of the blood, and finally of the resorption of the cancerous matter into the system."

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M. *Rognetta* gives sound advice when he insists upon a certain course of constitutional treatment to be adopted both for some time before, and for a length

of time after, an operation has been performed. Whether he is right in his opinion that such treatment should invariably be directed to the correction of hypersthenic excitement—or, as our author expresses it, 'l'espece d'incendie devorant'—may, we think, be fairly disputed; but an objection on this score does not necessarily invalidate the general expediency of his therapeutic suggestions.

Among the *Hyposthenic* remedies that are most serviceable alike in Cancerous and in Chlorotic affections, he enumerates repeated small bleedings, also steel, quinine, hemlock, the aerated alkaline waters, acidulated drinks, warm baths, a mild unirritating diet, and the avoidance of all physical and moral excitement.

These remedies have never cured Cancer, it will be at once replied. True, but then it may be fairly asked in reply, have they ever been used with sufficient perseverance and discretion? Medical men have always been looking out for *specifics;* and they have rarely followed out any plan of constitutional treatment upon rational principles, for a sufficient length of time. When the disease has made considerable advances, the remedies which we have mentioned, although useful, cannot be expected to effect any very decided benefit; unless, indeed, they be so judiciously combined together, as to maintain the vascular system in an unvarying state of *hyposthenia.* Then we must also have recourse to the exhibition of more energetic means; as, for example, the preparations of Iodine, Arsenic, Mercury, &c.—which may be often very advantageously combined with the remedies of which we have already spoken.

We may here state, as a general rule, that these active poisonous drugs will always act more surely and decidedly, if administered in minute doses, and dissolved in a large quantity of fluid, so as to form a sort of mineral water. Thus given, they are much more readily absorbed into the system, and moreover, their irritative local action on the stomach and bowels is at the same time avoided.

The following practical remarks by M. *Tanchon*, who has paid so much attention to the pathology of Cancer, are well deserving of general notice.

"Mercury, Iodine, and Arsenic are the three remedies which I have most extensively used. Of these, Mercury is certainly the most potent sedative (*le plus hyposthenisant*) of the white or lymphatic vascular system that I know. By its aid, I have often taken the colour from the most sanguineous habits in the course of a few days. One of the best forms for using it is the Unguentum Neopolitanum or Pommade di Vigo, applied externally. Sometimes, however, the tolerance even of this simple form, on the part of the system, is by no means great; for I have seen it several times bring back engorgements which had already disappeared, and even produce pain, which it so generally soothes in a very remarkable manner.

"Iodine is an excellent remedy, when the stomach will bear its administration. The tincture is not a good form for giving it: an aqueous solution is greatly to be preferred. I occasionally use it as an outward application, combining small doses of Iodine in powder with starch, and then mixing this with Camphor or Belladonna, according to the indications of the case: this is what I call my *pulvero-topique.* The *ioduret* of Arsenic is the form in which I prefer to administer the latter active remedy. It should be given in very minute doses, and these very largely diluted. When the system bears, as it sometimes does, enormous doses of Arsenic without suffering, we may fairly presume either that the cancerous disease is incurable, or that the action of the remedy is directed on some other point of the economy."

So much for M. *Tanchon's* experience. According to M. *Rognetta's* observation, the Ioduret of Potassium is essentially a sedative of the vascular system. He condemns the use of Opium in all its forms; it acts, says he, almost always as a stimulant, and therefore cannot fail to prove injurious in Cancerous diseases.

Conium and Belladonna are not liable to the same objection. The former of these narcotics was certainly at one time vaunted too highly; nevertheless, it is an excellent remedy, and should be used at a much earlier period of the disease than is usually done. M. *Rognetta* objects to the form of pill in which it is so generally exhibited; it would be decidedly more efficacious, if it were given in a fluid state, by being dissolved in a large quantity of water. In many cases it may be very serviceably associated with quinine, steel, and sometimes also with sulphur.

With respect to the propriety of removing a Cancerous tumour by a surgical operation, our author decidedly recommends that the sooner that this is done, the better;—"provided always that the constitution of the patient be treated dynamically both before and after the operation." For the purpose of effecting the removal he prefers the use of Caustics to that of the knife. His reasons we give in the following words:

"If we consider that a chemical caustic acts slowly for several days in succession, becomes infiltrated pretty deeply into the flesh, passes in part into the healthy tissues, pursues the morbid product even into its most extreme recesses, is more or less completely absorbed, and acts as a general sedative, at the same time that it removes the mischief, bit by bit, (*à plusieurs reprises*) until a process of healthy granulation is established; if, moreover, we reflect that this destruction is accompanied with a dynamic *ataxia*, which the mineral poison produces upon the morbid part, and that the existence of this is an obstacle to the *hypersthenic* re-action of the general system—a re-action which is invariably the result of a cutting operation, and which, without fail, must accelerate the progress of the diathesis—we may readily understand the motives which have led me to prefer the use of caustics to that of the knife, whenever it is possible; or to join both means together, if such be ever deemed necessary. Experience has proved that more advantageous results have been obtained from the use of caustics, than from that of cutting instruments; and we verily believe that these results would be still more favourable, if a judicious internal treatment had been adopted at the same time."—*Annales de la Therapeutique.*

ON THE FORMATION OF THE AMMONIACO-MAGNESIAN PHOSPHATE IN PUTRESCENT MATTERS.

NUMEROUS experiments have proved that, whenever any animal matter begins to putrefy, there are formed in it crystals of the ammoniaco-magnesian phosphate, which are discoverable by the use of the microscope. By this simple method they may be readily seen in putrescent urine, for example; but, not so, if this fluid be deprived of its fibrin by the addition of corrosive sublimate; then no trace of the crystals is to be found, even after four weeks of putrefaction.

If heat be employed to get rid of the coagulable contents, the crystals are formed only very slowly. They are abundant in the products of Nephritis, and Catarrh of the bladder. Dr. *Zimmermann* has discovered them also in the debris of carious teeth, in the exudation of pleuro-pneumonia, in the nasal mucus, in ordinary purulent matter, in the fæcal discharges—more especially of those animals which have a long intestinal canal, and which consequently retain for a length of time the food on which they live.

As often therefore as crystals of the Ammoniaco-magnesian Phosphate are found in any of the secretions of a patient, we may fairly presume that there exists a putrid decomposition of animal matter. It is only in this manner that we account for the presence of this salt in the alvine discharges in Typhus fever, and in the urine of persons affected with paralysis of the bladder.—*Wochenschrift fur die gesammte Heilkunde.*

Cæsarian Operation on a Dead Woman: Child saved.

M. *Loweg* was called to the assistance of a pregnant woman, who had been long ill: she died very shortly after his reaching the house. The Cæsarian operation was immediately performed, and the child with the placenta was extracted without delay. It seemed on removal to be dead; but it had evidently continued to live up to the very moment of the mother's death. It was straightway put into a warm-bath, and artificial respiration was steadily employed. After a quarter of an hour's perseverance with these means, the pulsations of the heart were first discoverable, and soon afterwards the child began to breathe. It lived for several months.

Remarks.—It is indeed very rare that an infant, extracted from the uterus after the death of the mother, has been known to live. It deserves to be generally known that, when such has fortunately been the case, the success has usually been owing to the steady use for some time of the means employed in the present case; viz, of the warm bath and insufflation of the lungs by applying the lips directly to those of the infant, and breathing warm air into its chest —thereby keeping up an artificial respiration for a considerable period.—*Ibid.*

Bicephalous Child: Ligature of One of the Heads.

On the 31st October, 1843, M. *Buhring* was called to see a new-born infant, on the back of whose head there was a large tumour, that was in a great measure covered with hair. On an attentive examination, he found that the child had a small head, having the forehead flattened as in the ape, the anterior fontanelle normal, the posterior one very large and covered with a thin skin; a part of the left parietal and of the corresponding occipital bone seemed to be wanting at the place where they join to form the lambdoid suture; the face was regularly formed, and the other parts of the body were well developed. On the occiput at the side, and a little to the right of the fontanelle, was situated the tumour, which was attached by a pedicle of an inch and a half in thickness; it seemed to be, as it were, a second head, that was actually larger than the true head of the child. This pseudo-head had the face turned to the right side; it had an ocular cleft, but without any eyeball, a projection in the site of the nose, and a depression in the place of the mouth. No distinct bony plate could be felt in any part; and indeed the round mass appeared to be formed by an elastic hairy scalp, which was of an almost cartilaginous firmness in some points. At the back part of this sort of Mole, there was a spheroidal mass, of a very red colour, evidently fluctuating, and yet insensible on pressure; although every other part of the tumour was so tender, that the infant began to cry on the gentlest touch. It was quite otherwise when the pedicle, which joined the two heads together, was compressed; there the sensibility was null; but symptoms of cerebral congestion appeared, if the constriction was increased beyond a certain degree.

M. *Buhring* determined to remove the tumour by ligature; but, first of all, he made an incision into the part which presented a sense of fluctuation. Between four and five ounces of a transparent yellow serosity were discharged; and, on separating the lips of the wound, he saw distinctly at its bottom two normal cerebral hemispheres, provided with regular medullary convolutions. When the ligature around the pedicle was tightened, the breathing of the infant, which had hitherto been quite tranquil, became hurried and laborious, the vessels of the face and head, especially the external jugular vein, very highly congested, and the pupils dilated. Some blood was therefore taken from the jugular

vein, before the constriction was completed. When three ounces had flowed, all the accidents ceased, except some degree of embarrassment in the breathing, and certain convulsive twitches or irregular movements of the limbs. The child was applied to the breast, and it seemed to suck without inconvenience. After a few minutes had elapsed, the pseudo-head had become quite cold; and, as it was now completely destitute of feeling, M. *Buhring* had an opportunity of examining it at leisure. On making a longitudinal incision through the firm hairy scalp, he found a distinct *dura mater* underneath; and within this membrane a red-coloured medullary hemisphere, in which the great lobes and the crura of the brain were distinctly visible. During all the time of this anatomical examination, the infant continued to suck very quietly; and, for two hours afterwards, it did not exhibit the slightest appearance of suffering. The tumour was covered with pledgets dipped in a spirituous lotion, and these were kept on by means of a light bandage. The child lived for 36 hours after the operation.

Dissection left no doubt as to the nature of the monstrosity: it proved to be, beyond all doubt and question, a second head. The true head was completely organized: the connection that existed between the two was not by any genuine medullary substance, but by nervous cords, blood-vessels, and a prolongation of *dura mater*. All the other organs were in a normal condition.—*Ibid. and Gazette Medicale.*

ON THE RE PRODUCTION OF THE CRYSTALLINE LENS.

THE following is a summary of the conclusions to which M. *Textor*, in his recent dissertation, Ueber die Wiederzeugung der Krystallinse, has arrived.

The extraction or depression of the crystalline Lens is followed by the re-production of a new one that is more or less regular in its configuration, or at least by the formation of a certain portion of the crystalline mass.—This re-production is the work of the investing capsule, provided this remains uninjured.—When the capsule is removed, the lens is not re-produced.—The capsule adheres to the new crystalline ring (*bourrelet*,) but not so very closely that they cannot be separated.—The newly-formed Lens possesses the same transparency as the old one—The re-production of the Lens requires a certain length of time, which is however very variable in different circumstances.—The new Lens gradually acquires a greater degree of solidity and thickness.—Its form depends much on the extent of lesion of the capsule.—The capsule has, in all cases of re-production of the Lens, been observed to retain its transparency.

MULLER ON ENCHONDROMA.

PROFESSOR *Muller* was the first who described, under the specific appellation of Enchondroma, a variety of morbid growth, which had previously been classed under the general term of Osteosarcoma or Osteosteotoma, or cancerous degeneration of the bones, &c.

According to *Muller*, this disease is a fungous tumour of the osseous structure, and of the surrounding soft parts, as of the glands, for example. Its external appearance resembles a good deal that of a common potato; it occasionally acquires the size of the closed fist; the skin over it usually remains intact: the tumour is found on dissection to be formed by an agglomeration of small tubercles that are filled with a substance of the nature of soft cartilage. When such a morbid growth is carefully examined, it is observed to be composed of two substances that are obviously distinct from each other; viz. one that is of a fibro-membranous character, and is formed of cells of different sizes; and ano-

ther that is contained within a fibrous envelope, is of a white colour, and has less consistence than cartilage. Microscopic inspection, however, proves that this inclosed substance exhibits all the features of cartilage; viz. cells of a round or irregularly oblong shape, with granulations within. It not unfrequently happens that the substance of an Enchondromatous tumour is, as Cartilage is in the embryo, altogether cellular in structure. The result of chemical examination confirms that of microscopic inspection; for the presence of *Chondrine* is readily detected in the morbid substance.

Enchondroma presents itself under different aspects. When it affects the soft tissues, it is usually invested with a thin envelope that looks like cellular texture. It does not attack the articular surfaces; and it generally leaves also the muscles and tendons intact. The disease is of much more frequent occurrence in the osseous than in any other tissue: the bones of the metacarpus and of the digital phalanges are especially subject to its development. In some cases it appears as a bony Envelope, the normal osseous network having become softened and being replaced by a mass of Enchondroma; while, in other cases, the morbid growth is without any bony covering, and its surface is then 'bosselée,' and formed by an agglomeration of rounded corpuscles. The first of these forms usually affects the phalanges, and the second the spongy bones of the carpus, &c.

An interesting dissertation, De Encondromate, was published last year at Erlangen by Dr. *Jacob Herz.—Gazette Medicale.*

THE INSANITY OF DON QUIXOTE.

IT is well known that *Sydenham*, the great physician of the 17th century, recommended the reading of Cervantes' inimitable novel to all his hypochondriacal patients. He might have recommended this marvel of book-writing in a still higher point of view, and for still more important purposes; viz. as teaching, in the most attractive of all ways, that of example, some of the profoundest lessons of Ethics and Philosophy. In his life-like portrait of his hero, Cervantes has left us an admirable picture of one species of Insanity or mental alienation; admirable not less for its scientific accuracy, than for its extraordinary literary excellence. A Spanish physician, Dr. *don Antonio Hernandez Morejou*, has illustrated this point remarkably well in his curious work, entitled, "Beautés de la Medecine Pratique decouvertes dans l'ingenieux Chevalier de la Manche." The following extracts, from M. *Puibusque's* recent work on Spanish and French literature, may prove acceptable to our readers.

Cervantes has read alike the head and heart of man; he is one of those torches of Science which throw light on all the aspects of the human mind; one of those anatomists of thought who have seized and revealed the most hidden secrets of the intellectual organism. The monomania of Don Quixote is not a fictitious and fanciful insanity; it is complete and perfect in all its parts; it is a portrait drawn not by the imagination, but from strict and most accurate observation, having all its traits combined and blended together most faithfully, according to the laws of Nature: in a word, no madness could be more normal."

The most striking features of the Don's insanity, in reference to its exciting causes, are well exhibited in the following table.

"Temperament bilious and melancholic.—Don Quixote was tall, meagre, dry, hairy, of a yellowish complexion, and sombre in his character.

"Age mature; crisis of manhood.—The Don was nearly 50 years of age.

"Culture and fertility of the understanding.—He was full of *esprit*, had an excellent memory, and his acquirements were so various, as to embrace a knowledge of almost every subject.

"Pride *of* blood and vain glory.—Don Quixote was an *hidalgo*, a descendant in the direct line from Varon de la Alcurnia, of Guttiere Quijada, conqueror of the sons of the Count St. Paul.

"Laborious and violent bodily exercise.—He was a keen sportsman, and especially fond of coursing.

"Sudden transition from activity to inertia.—The Don began to forget, from day to day, the management of his affairs, and even to lose his passion for the chase.

"Diet of heating, viscid, and not very nutritious food.—On *gras* days, he usually lived on cold minced meat, strongly spiced; supped on lentiles every Friday and Saturday; and added a pigeon to the repast on Sundays.

"The summer solstice and autumnal equinox.—Don Quixote's worst attacks were on the 23d of July, the 17th of August, and the 3d of October.

"Amorous feelings.—The Don was ever so much under the influence of the tender passion that he needed not to see his inamorata to adore her, as the very perfection of all that was admirable.

"Excess of reading.—He sold all his property to purchase books of chivalry and romance.

"Long and repeated watchings.—After reading a whole night by the mere light of the moon, he never thought of taking rest by day; and thus it was that, by reading much and sleeping little, he so scorched and dried his brain that at length he lost his reason."

From the enumeration of the causes, the conscientious doctor passes on to point out the symptoms of the case in these words:

"The term insanity is generic, and comprises several species, each of which again exhibits more or fewer varieties. The symptoms are correlative in their nature, and correspond with the diversity of the causes which produce them. Don Quixote, in losing his judgment, had lost the power of distinguishing falsehood from truth; he was now governed solely and entirely by his imagination, and he believed everything that he had read of in his books of romance; he dreamed of nothing else but adventures of chivalry and protestations of love; all these dreams were regarded by him as so many realities, which could only be pursued by his becoming a knight-errant. Therein consists the special and distinctive character of this strange hallucination; the *ensemble* of the attacks, and of all the circumstances connected with them, constitutes what medical men have called the *Syndrome symptomatologique*. The disease of Don Quixote does not for a moment escape the eye of the diligent observer; even in the apparent disorder of its phenomena, it will be found to follow the necessary course of its nature, whether this be manifested by a transport of fury, by a fantastic impulse of arrogance, by warlike enthusiasm, or by amorous gayety. We perceive that, in every paroxysm, the external objects which are brought into contact with the senses of the patient, instead of producing normal sensations and regular images, disturb his judgment, and are presented to his imagination only under an aspect that is conformable to the internal disposition of his excited brain."

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"When the poor knight has reached the very acme of his madness, at the time when he has determined to remain alone and in complete nudity in the Sierra-Morena, what is the expedient resorted to by his friends to draw him out and bring him home?

"They appeal to and accuse the illusions of his mind by strange and most droll *travestissements*. The curate and barber, disguised in the most ridiculous attire, and the beautiful and unfortunate Dorothea conspire together in the most amusing manner; and every one knows how well the plot succeeded. The latter, falling down at the feet of the Knight, tells him that she is the Princess Micomicona, relates, in the most touching mood, all her troubles and distresses, and implores him to avenge her griefs. Deceived by this stratagem, the Don leaves

his wild retreat, and allows them to bring him along to an inn, where a deep sleep, interrupted only by somnambulism, arrests the progress of his delirium. Soon he falls into a state of profound atony; he is easily mastered, and now we see him carried along to his home in a common cart or wagon, his eyes fixed, his mouth closed, and his head bent down, like a man who has not yet recovered the bewilderment of a frightful dream. Nothing could be more prudent than the resolution of the curate and barber not to visit their friend for a month afterwards, in case their presence might awaken any former associations."

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"The moral phenomena which mark the return of Don Quixote to reason, follow each other in so exact a succession, and are described with such wonderful fidelity that, as Dr. *Morejon* remarks, we might suppose that the Spanish romancer had stolen the pencil of the old man of Cappadocia; and indeed the description given by Cervantes has this great advantage over that of Hippocrates, that it represents to our minds an action and not a mere definition: in place of there being only a cold lifeless object of the intellect, we have exhibited before us a most amusing personage, with whom we may converse; who diverts us with his drollery, and fascinates us with his talk."

On the Traumatic Curvature and Incomplete Fracture of the Long Bones in Childhood.

This subject has hitherto not been examined with the attention which it deserves. M. *Thore*, after alluding to the cases which have been published by MM. *Thierry*, *Villaume*, *Gulliver*, *Mondiere*, &c. relates the particulars of three which have occurred under his own observation. In the first of these, a child, eight years of age, had the fore-arm bent considerably forwards, in consequence of a fall. In another case, the curvature of the fore-arm was backwards; it occurred in a child three years old, and, from having been neglected, the deformity remained uncured. The third case—some of the details of which we now give—exhibits an instance of a curvature and an incomplete fracture taking place at the same time.

Case.—A child, six years and a half old, fell down a stair-case. When visited, the fore-arm was found to be tense, swollen, and very painful on the slightest pressure. The surgeon that was called, fancied that either the radius or the ulna was fractured: but no *crepitus* could be perceived upon the most attentive examination. The fore-arm was obviously curvated, the concavity being directed forwards; there was also a notable prominence at the posterior and inner side of the limb. By keeping up extension for a few minutes, the curvature was observed to be considerably lessened for the time; but, in consequence of the great pain induced, nothing more could be then done than merely to apply leeches and a lotion.

M. *Thore* did not see his patient again for five months; at which time there was still a slight curvature at the seat of the injury. Moreover, immediately above the middle third of the ulna, and more especially at its inner part, a rounded projection—that was evidently caused by deposited callus—could be distinctly felt. The radius appeared to be quite intact.

Most of the cases of curvature and incomplete fracture have occurred in the fore-arm. Three instances have been observed in the leg, and, in one, the arm or humerus was the bone that was injured.

From a good many experiments, which M. *Thore* has performed on the bones of infants and young children after death, he infers that the tendency to curva-

ture and incomplete fracture is greatest about the second year of life. After the 12th or 14th year, these accidents are of very rare occurrence indeed.

In most cases, the deformity will gradually yield to the application of moderate pressure upon the convexity of the injured bone. Occasionally, indeed, no inconsiderable force has been found necessary to straighten the curvature.—*Archives Generales.*

ON THE MECHANISM OR NATURE OF ATROPHY.

THE following extract, from a standard work of medical literature on the Continent, is a tolerably fair sample of the spirit of abstruse and fanciful speculation, if not of the philosophic *clairvoyance*, that characterizes so many of the writings of the German physiologists.

"Every act of nutritive crystallization takes place on the outside of the capillary vessels, in a fluid derived from the blood (*plasma*, vel *cysto-blastema*). The element of formation is the cellulo. This possesses a proper individual life, in virtue of which it is developed (plastic force); moreover, it has the faculty of inducing peculiar chemical changes in the materials which it derives from the *cysto-blastema* by its inner and outer surfaces (metabolic force). Atrophy may be caused, 1, either by the general nutritive fluid ceasing to circulate in the minute vessels, and by the consequent desiccation of the organ; 2, or from the *plasma* being deficient in the formative materials; 3, or from a morbid condition of the cellule itself, rendering it unfit to fulfil its functions; or 4, from some peculiarity in the state of the nervous influence. The cause of atrophy may also reside in the work of decomposition—which consists in the return to a liquid state of the materials that are expelled from the cellule, and absorbed into the torrent of the circulation;—or from an excessive tendency of the organized matter to become liquified; or from a morbid predominance of the excretory process attracting all the organic matter within its reach." Having laid down these principles, Dr. *Caustall* proceeds to examine the internal and external influences, which are apt to induce the state of atrophy in any part.—*Handwörterbuch der Physiologie, art. Atrophie.*

FATAL CASE OF GLANDERS, WITH REMARKS.

A MAN, 55 years of age, was accidentally wounded in the cheek by one of the upper-jaw-teeth of a glandered horse, while he was attempting to give the animal drink. The wound bled a good deal at the time; it was bathed first with salt and water, and then with flowers steeped in brandy. He remained quite well until the next afternoon, when he was seized with shivering and general *malaise*. He was hot and restless during this (the second) night and complained much of headache, pains in different parts of the body, more especially in the seat of the wound. The face became affected with Erysipelas; the edges of the wound looked of a blueish cast, and were covered with phlyctenæ; there was exceeding prostration of strength and spirits; the breathing was hurried and oppressed, and the pulse very rapid and small. The pains in the joints, especially in the left hip, right knee, and lower part of the leg on this side, immediately above the ancle, were exceedingly severe.

For two or three days, the symptoms appeared to become mitigated under the treatment that was adopted; but on the seventh day we read that, in addition to the symptoms already enumerated, there was a sanious discharge from the right nostril, and petechial spots scattered over the surface of the body. The patient,

who was every now and then delirious, frequently complained of intense pain in the left hip, the integuments over which were swollen and œdematous. On the 13th day, the following is the report of the symptoms: dorsal decubitus, extreme prostration, profound stupor alternating with delirium, severe headach, eyelids œdematous and of a livid hue, the conjunctivæ deeply injected, incipient opacity of the corneæ; wound suppurating freely; the malar bone exposed; discharge of bloody matter from the nostrils; the nasal mucous membrane red, sprinkled over with sanguineous crusts, but without any visible ulcerated spots; lips sooty; tongue dry, yellowish and filthy; intolerable thirst; difficult deglutition; numerous brown papulæ, surrounded with red areolæ over every part of the face, and confluent on the nose and lower eyelids; enormous "empatement," but without any sense of fluctuation of the left hip; distinct fluctuation immediately above the right ancle; a variolous-looking eruption on the abdomen and extremities, with phlyctenous and livid spots between the pustules. The patient died next evening.

Dissection.—Passing over the description of the wound itself and of the cutaneous eruption, we may notice that the abscess above the right ancle was found to be situated under the fascia of the leg, and extended inwards into the substance of the muscles. The nasal mucous membrane was of a very dark colour, much softened in texture, and infiltrated with purulent matter: here and there were pustules and ecchymosed spots, especially on the surface of the spongy bones. The tonsils and the pillars of the fauces were bedewed with pus. The epiglottis was œdematous, and speckled over, at one part, with minute sanguinolent spots.

The lining membrane of the larynx and trachea very highly congested and dotted over with numerous whitish papulæ, like the incipient cutaneous pustules. Cellular texture underneath the sternum and pleura emphysematous; considerable serous effusion within the left pleura; lungs containing numerous subpleural purulent nuclei, which varied in size from that of a pea to that of a pigeon's egg, disseminated through their substance. The blood within the heart and large vessels was very black; but there were no coagula.

The reporter made some experiments on asses with the purulent discharge of this patient. Some of the pus from the nostrils and from the abscess near the right ancle was taken on the day preceding the patient's death, and inserted, by pretty deep scarifications, into the flesh about the shoulders of a healthy and vigorous ass. The animal speedily exhibited all the symptoms of acute glanders, and died on the seventh day after the experiment.

The post-mortem appearances were in every respect such as are usually found after fatal cases of the idiopathic disease.

M. *Landouzy* quotes with approbation the remark of M. *Bouley*, that 'Acute Glanders is a highly contagious disease; contagious by the product of the nasal secretion; contagious by the expired air; contagious by the blood; and contagious by the tissues of the dead body. After the fever of incubation, when the virulent eruption takes place, the infected animal exudes, so to speak, the morbific matter from every pore.' The observations of MM. *Rayer*, *Breschet*, and others, have most satisfactorily showed that the disease is transmissible to other animals besides those of the solipedous family; for example, to dogs, sheep, and goats. A recent melancholy case at the Hôpital Necker clearly establishes the fact that it may be conveyed from one human subject to another; one of the *internes* at that hospital having died of the disease, caught by examining the body of an ostler who had fallen a sacrifice to it.

It appears that in the three years, from 1837 to 1840, no fewer than 27 persons have died in Paris of the glanders. M. *Landouzy* condemns the too common practice, in the French metropolis, of feeding dogs and sheep with the flesh of horses that have died of the disease.

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"As to any essential difference between the acute and chronic forms of Glanders, we do not believe," says this gentleman, "that such exists; and the adoption of the contrary opinion has, on more than one occasion, led to a fatal security. We know of many indubitable cases of Farcy communicated from horse to man, and *vice versâ*. If the identity of these two affections, and if the circumstance of their passing from the acute to the chronic state, and from the chronic to the acute, warrant certain scientific distinctions, they will not permit us, without great rashness, to establish any legal distinction."—*Gazette Medicale.*

M. BRACHET'S OPINION OF ANIMAL MAGNETISM.

M. *Brachet* may be justly considered a high authority on all topics connected with the phenomena of innervation, in the state alike of disease and of health. His great experience and clearsighted practical sagacity entitle his opinions to universal respect. As a matter of course, he, like other medical men of experience, has seen something, and read more, of the vaunted marvels of Mesmerism, as it has been revived of late years by *Dupotet*, *Elliotson* and others. Let us hear what judgment he has formed on the subject.

"From the Magnetism of Mesmer has arisen that other jugglery, denominated Animal Magnetism. Twenty times beaten down by science, and reason and facts, every now and then it has again lifted up its head, more ridiculous and amusing, indeed, than dangerous. We do not, however, mean to deny the effects which may be induced in persons of highly nervous constitutions by the *passes* and other grimaces that are usually practised. In the magnetic stupor of the animal energies that is sometimes induced, the entire nervous system is compromised; and this influence may unquestionably appease pain and spasmodic contractions for a time, by acting powerfully on the imagination. We can readily conceive the possibility of this; and certainly there is no lack of cases of alleged cure in hypochondriacal, as well as in many other, ailments. Although we have heard of such, we have not ourselves met with any well-authenticated examples. In our opinion, this Animal Magnetism, even when divested of all the apparatus of Charlatanry, is on the whole more likely to do harm than good in the disease now under consideration (Hypochondriasis). If such be our opinion of Magnetism, we need scarcely say that we equally discredit all the recorded wonders of Somnambulism, the exhibitions of which are now almost entirely limited to rogues, whose only object is to attract the public notice, and rob their silly dupes.* These distant voyages without moving from off one's chair, these divinations, these transpositions of the senses, &c., are only so many clever tricks, contrived to amuse the weak and entrap the foolish. It may so happen that a poor silly hypochondriac, who is strongly prepossessed in favour of this culpable jugglery, appears for a time to derive some benefit to his health; but then it is only from his becoming the dupe of his credulous fancy, and not from any direct or actual sanative influence bestowed."

We observe, in a recent number of the Medical Gazette, a quotation to the same effect, of the opinions of the celebrated *Müller* of Berlin, on the subject of Animal Magnetism. How long will any men of education allow themselves to be imposed upon by the juggling tricks of clever rogues, and the paid-for testi-

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* Within the last few weeks, the mountebank mummery of MM. *Marcillet* and *Alexis*, who were fleecing the West-end ignoramuses at the rate of five guineas for every private *seance*, has been covered with the ridicule and contempt which it deserves, and these knaves have been *chassés* from the metropolis, in consequence of the clever exposure of their lying and dishonest tricks.

mony of credulous women? Medical men, at all events, should know better; for they must have studied the history of the nervous system and its functions only indifferently well, not to be aware that many startling, and not easily explicable, phenomena are apt to occur during the progress of some of the Neuroses.

Remarks on the Molluscum Contagiosum.

The *Molluscum Contagiosum* of Bateman is a disease of very rare occurrence in France. *Biett* has never seen an example of it; but Professor *Andrieu* has recently published two cases of it.

A girl, eight years of age, had a number of *verrucæ* on the chest, neck, and lower half of the face; she had, it was supposed, contracted them at a boarding-school, where she was much in the company of another girl who was similarly affected. This dermatosis exhibited the following characters, when first examined by M. *Andrieu*. "In what might be called the first stage, each tubercle was of a conical shape, shining on the surface, and of a paler colour than the surrounding integuments. The apex of the tubercle was truncated, and in its centre there was a gray or blackish point, giving it an umbilicated appearance: the basis was large and sessile.

"In the second stage or period, the tubercle had increased in volume; its basis was now pediculated; its free part was round and distended; and the umbilicus or central spot was more prominent. By degrees, the little tumour assumed a red hue, and became apparently the seat of a peculiar kind of inflammatory process. Upon being compressed, there escaped from the central opening a small quantity of cheesy-looking matter, very similar to what is squeezed out of the cutaneous follicles in *Acne*.

"In the third stage, these warty-looking tubercles resemble, in a very striking manner, gooseberry grains of a medium size. Reddish at first, subsequently of a dull red hue, and at length of a blackish colour during a process of destructive maturation, they end by becoming completely desiccated, and then fall off, leaving behind them a discolouration of the skin, somewhat analogous to that which is left from the vaccine inoculation."

Two months after his first visit, M. *Andrieu* again saw his patient, and he then found that her mother had become affected with the disease. Tubercles, similar to those which we have now described, had made their appearance on her face and neck, and afterwards on her breast and fore-arms.

Frictions with a pommade—composed of four parts of arsenious acid and thirty-four parts of lard—caused the complete dispersion of the tubercles in both patients: the time required for the cure being about three months in the case of the child, and four in that of her mother. No constitutional remedies were administered in either instance.—*Gaz. Med. de Montpelier.*

Actual Cautery in certain Uterine Diseases.

It is under the inspiration of M. *Jobert* that this memoir (by a M. *Laugés*) has been written. For several years past, the surgeon of the St. Louis Hospital has occasionally substituted, with very remarkable success, the use of the actual cautery in place of the various potential caustics in the treatment of certain uterine diseases.

The cauterisation is effected by means of an iron or steel rod, passed through a speculum of ivory—a material that is a bad conductor of heat. The instrument should be heated to whiteness; for in this state it is less apt to adhere to the part

to which it is applied—a result that might be apt to detach and bring away the newly-formed eschar.

If the vagina be not touched with the cautery, this operation causes little or no pain, and it is rarely followed by any severe re-action; the process of menstruation is not sensibly disturbed, however near to a catamenial period the application of the cautery may have been made.

As to the indications for the use of this remedy, it is particularly well suited—

1. To deep, exuberant, fungous ulcerations of the os and cervix uteri, complicated with hæmorrhage, simple hypertrophy, or engorgement with ramollissement or induration.

2. To hypertrophy with uterine Catarrh, but without ulceration.

3. To the ulcerations that often attend a softening of the tissue of the cervix uteri, when this is apt to bleed upon the slightest pressure.

4. To rebellious neuralgia of the Cervix.

5. To unhealthy ulcerations, for the cure of which excision of the cervix uteri has been recommended and performed.

M. *Jobert* has triumphed with the actual cautery over an affection, for which the patient had twice undergone this formidable operation.—*Journal de Chirurgie.*

Remark.—We need scarcely say that our object in publishing these observations is not to recommend the practice here enjoined, but only to record what is going on among our brethren on the Continent. We trust that the day will never come when any rational surgeon in England will propose to apply the actual cautery to the uterus for the cure of neuralgia of its cervix!

M. FORGET ON DISEASES OF THE HEART.

"No one before the time of *Laennec* ever thought of questioning the accuracy of the old doctrine—sanctioned too by the imposing authority of *Bichat*—that the sounds of the heart are owing to its impulsion or stroke against the ribs and sternum. We have no intention at present of canvassing the merits of the various theories that have been proposed on this subject of auscultatory investigation during the last twenty years. Suffice it to say that, in our opinion, the theory, that refers the cardiac sounds to the action of the auriculo-ventricular and aortic valves, appears the most probable; although we are quite ready to admit that other influences may have something to do with the phenomena in question. Whatever view we adopt, this one fact is beyond dispute, viz. that whenever the valves become altered or diseased, a sensible change in the tictac sounds of the heart is invariably to be perceived."

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"From their community of origin, we may infer that it is not possible, in a practical point of view, to discuss separately, and apart from each other, the subjects of valvular contraction and valvular insufficiency; and therefore that it is much more logical and more conformable to nature, to take for the basis of our clinical inquiries valvular alterations in general, as constituting the fundamental element of organic diseases of the heart.

"Now these alterations are, in an immense majority of instances, the starting-point and direct cause of cardiac dilatation and hypertrophe.

"Of 29 cases of valvular disease, examined by dissection, we found that in 9 the aortic valves alone were affected; in 10 the mitral valve only was the seat of morbid change; and in the remaining 10 both these valves were diseased. On one occasion only have we ever seen the tricuspid valve affected; the pulmonic valves never.

"We may therefore fairly conclude that the lesions of the cardiac orifices are,

in very many cases, multiple; and that, as these lesions give rise to very analogous symptoms, whatever be the orifice that is affected, the diagnosis of the exact seat of the alteration is often very difficult, if at all possible, during life; in practice it is fortunately not of much importance to diagnosticate the precise nature and seat of the valvular disease.

"The essential point to determine is, whether there be such a disease existing, or not. If there be, we may rest assured that it is in the left or systemic cavities; but whether it be the aortic or the mitral valve that is affected, it is never easy to say. There has been no little parade of scientific and technical discrimination very needlessly expended in attempting to point out the diagnostic symptoms of different cardiac diseases. Be it remembered, that the aortic valve is not distant from the mitral more than by a ring of a few lines in breadth. How then can we believe that their diseases will be marked by any very distinguishing symptoms?"

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"Considerable difference of opinion has existed as to the explanation to be given of those instances of confirmed valvular disease, in which the usual, and, we may almost call them, the characteristic *bruits* are absent. Making allowance for those cases in which the alleged absence of the auscultatory signs may be fairly attributed either to the inexperience or the want of tact of the practitioner, we can have no difficulty in mentioning certain peculiarities which will sufficiently account for the occasional indistinctness of the abnormal sounds in valvular disease of the heart. For example, the pulmonary murmur may be so loud, as more or less completely to mask the cardiac *bruits*; in the same way as the interposition of a portion of lung between the heart and ribs may deprive the cardiac region of its usual dulness on percussion. Another cause may be the abnormal degree or amount of force in the heart's contractions. If, for example, this force be excessive, there is almost necessarily such a tumultuous confusion present, that the characteristic sounds are quite 'denaturés;' and, on the other hand, if it be deficient, the sounds are scarcely, if at all, produced;—for the very simple reason that the valves cease to vibrate, in the same manner as the cords of a violin remain quiescent, if too lightly touched with the bow. This is precisely what is often observed in the last stage of cardiac disease, when the heart beats with extreme debility."

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"Another argument, urged by the Vitalists against the mechanical theory of the sounds of the heart's action, is derived from the occurrence of certain cases, in which, it is acknowledged, the existing sounds or *bruits* do not exactly correspond with the character of the existing lesions. Now it is quite true that it is often very difficult to explain altogether satisfactorily the various circumstances which cause the cardiac sounds to vary their character from day to day. What we have said above will partly serve to solve this difficulty; for, just as the excess of force or feebleness in the contracting power of the ventricular parietes will account for the non-production of the special sounds, may we not presume that the same causes will explain the irregularity of their relative strength and weakness under certain conditions of the circulation? Suppose, for example, that, in a case of contraction with insufficiency of the aortic valves, the left ventricle can contract only imperfectly, while there is no impediment to its free dilatation, then the first sound will probably be absent, and the second one only will be perceived. Moreover, let it be remarked that, if any ambiguous case be attentively watched for some time, the characteristic auscultatory signs of the existing lesion will generally be recognised; for the peculiar sound, that has been wanting to-day, may have been heard yesterday, and will be so again to-morrow. The actual disposition of the altered orifice, its degree of tension, its particular conformation, &c. should all be taken into account, in our inquiries upon this subject; for we well know that a slackened cord does not vibrate like one that is

tense. The Humorists may still invoke the crasis of the blood, and the Vitalists the contractility of the vessels, to account for some of the acoustic phenomena of the heart's action; but, even admitting such interpretations, are not these conditions really and truly *physical* circumstances? We do not assert that valvular thickening is the only and the exclusive cause of abnormal cardiac sounds; but this we *do* assert, that it is by far the most common cause of them; and, whatever difficulty we may occasionally find in explaining certain phenomena, it is better to charge it to the insufficiency of our means of exploration than to the inconsequence of Nature's acts and operations: *physica physicè explicanda.*" —*Gazette Medicale.*

MATERIALISM OF MODERN PHYSIOLOGY.

M. *Virey* has been a prolific author in his day. Most of his writings are of a physico-moral character, having for their object the exposition and illustration of the reciprocal influences of mind and matter, throughout the wide and varied field of animal existence. With the exception of his "Natural History of Foods, Medicines, and Poisons," and his "Treatise on Pharmacy"—which has passed through several editions—all his works belong to that mixed category in which the natural sciences fraternise with philosophy—the embrace, however, being sometimes so intimate and close between them that the latter is fairly overlaid by the former.

So far back as 1809, he published a work entitled "Art de Perfectionner l'Homme," in which he discussed the character, manners and complexion of celebrated men, the peculiarities of the female organization, and the incessant and often stormy action and re-action of moral and physical influences on the human frame in general. He subsequently wrote a separate volume on "Woman considered in a physiological, moral, and literary point of view." In 1817 he brought out his "Medico-philosophical Researches on the Nature and Faculties of Man;" and, in a following year, a work on the "Natural History of the Human Race." His recently published "Physiology in its relations with Philosophy," belongs to the same category as several of the preceding productions of his pen. It contains a vast deal of speculation, more fanciful than solid, and more ingenious than convincing, on the difficult questions of vitality, the mutual influence of mind and matter, the relations of thought and feeling with instinct and spontaneous action, the polarity, as he calls it, of the nervous system, or the opposition of the cerebral with the generative pole in vertebrated animals, the relation between the volume of the cerebral mass and the development of the mental faculties, the curious subjects of dreams, hypochondriasis, and madness, &c. &c. Many of his views remind us of the visionary speculations of a transcendental German writer; they often savour far more of the metaphysician than of the physiologist; and unfortunately, if not designedly imbued with the spirit of Materialism, will infallibly be laid hold of by the sceptic in support of his irreverent conclusions. He assigns to the Ganglionic system the seat of the passions; the intellectual powers he refers to the Encephalon; and he regards the eighth pair of nerves as the bond of communication between them.

The unequal distribution of sensory power, in virtue of the laws of antagonism of different parts, is a favourite dogma with our author; and every now and then he brings it into prominent relief. Thus, we are told that (the anterior and the posterior regions of the body being in an inverse ratio of development) 'every *deploiment* of the posterior muscles or of their actions, as in the case of dancers, necessarily implies the inferiority of the encephalon; a fact that is shown in the case of leaping and running animals, all of which have a comparatively small head and very little *esprit.*' Poor comfort for *Fanny Ellsler* and *Cerito*;—who,

in spite of all their grace and spirituality, are physiologically, and therefore must of a necessity be, fools, hopeless fools!

M. *Virey* regards the nervous as identical with the Electrical power. "The functions," says he, "of the nervous system, thus connected with universal life, correspond with the revolutions of the planetary globe, in which the organisms are developed. It is probable that the vegetable and animal kingdoms are simultaneously animated by a biotic principle, the most active element of our world, compared to a subtle fire which seems to be the electric fluid modified into the galvanic and voltaic conditions, according to the mineral, vegetable, or animal fibres which it traverses." Unmeaning verbiage!

Our author agrees with *Lamarck* and *Decandolle* in ascribing to plants the possession of certain instinctive impulsions and acts of spontaneity; but which, in the absence of a nervous system, do not amount to perception.

With the ganglionic system appears the development of instinct in the Invertebrata; and with the cerebro-spinal axis that of intellect in the Vertebrata. The Encephalon is the laboratory of thought, having for its object the perception of the beautiful and true; the ganglionic apparatus is the seat of the feelings, affections and desires, and its end is the useful:—such are the two distinct and antagonist sources of the faculties. The innate ideas are simple original aptitudes, proceeding from the instinct, which is the predominant and pre-existent moving power of animals. "Whether we admit," says our speculative author, "an infinite individuality of instinct in each structure, or whether we recognise a mighty framework of actions foreseen and associated together, every species of which is but a wheel, so to speak, that serves either to assist or to retard each other's movements, there evidently exists a primitive design, by virtue of which every created thing moves in an appointed orbit, as the stars do in the firmament of heaven."

M. *Virey*, notwithstanding such dreamy and bewildering speculations as these, enters his protest against any charge of Pantheism being laid at his door. But, after having placed the origin of the Instinct and Intellect in organised matter, will the mere admission of certain pure and immaterial agencies suffice to clear him from this imputation? Such an act reminds one of the present condition of medical and philosophic writers in Italy, who are obliged to affix, as a heading to their works, an act of Catholic faith, and a disavowal of all heterodox interpretations which may at any time be drawn from their opinions.

The closing words of the writer, from whom we have taken this short account of M. *Virey's* new work, are rather remarkable,—perhaps some will add, pharisaical and unjust: "The anatomist ends in the Phrenology-, the clinician in the Vitalism-, and the naturalist in the Electricity-God. As for us, reader—you may perhaps smile at our avowal—we prefer the Bible and the Gospel."—*Gazette Medicale.*

GREATNESS OF SIR C BELL'S DISCOVERIES; RELATION OF THE CRANIUM TO THE ENCEPHALON, &c.

THE following generous acknowledgment of the pre-eminent value of the English physiologist's discoveries, we observed in the opening paragraphs of a French review of M. *Foville's* new work—Traité complet de l'Anatomie, Physiologie, et Pathologie du Systeme Nerveux—in the same Journal from which we took the preceding notice.

After alluding to the numerous and unsatisfactory attempts, that have been made in almost every age of our science, to explain the complex machinery of the nervous system, he remarks:—

"Amidst so many hypotheses, there is one idea that stands firm and upright. This is the great conception of *Charles Bell* as to the special attributes of the

anterior and posterior roots of the spinal nerves. Based on the most legitimately demonstrative examinations and researches, this discovery still enlightens and directs the entire physiology of the nervous system. Thanks to it, an epoch of positivism in doctrine, and of exactitude in arguments, has replaced centuries of vague explanations and fanciful conjectures. Alone, it has sufficed for the reputation of many men. Since the illustrious discoverer first made known his novel views, one has repeated his experiments, without making any change in them; another has made an application of them under different circumstances; a third has experimented on those animals which approach nearest to man in their organization; and a fourth has confirmed the truth of the principle, that had been proclaimed, by pathological observations;—and all have found in these second-hand discoveries and investigations a very satisfactory reward of praise and reputation."

The writer proceeds to remark that, however beautiful the theory of *Bell* is, it is to be remembered that, if considered as an exposition of the nervous system, it is imperfect and insufficient; for it explains but one part only of this system, viz. the nerves and the spinal marrow; and remains altogether dumb as to the functions of the great mass of the encephalon. The edifice is not completed; it is but part of the scaffolding and structure that has been reared; but these—thanks to the English physiologist's skill,—have been firmly and surely fixed, and are not liable to be again displaced. To finish, on the same plan, a work so successfully commenced, much remained to be done. It was necessary to follow in the encephalon the anterior and posterior fasciculi of the spinal marrow, to point out their course, their irradiations, their terminations, and their mode of connexion and union—whether of the fibres of the same kind among each other, or of the motor with the sensory fibres. This is the labour which M. *Foville* has undertaken, and to the due prosecution of which he has devoted his best exertions for a long series of successive years. As a matter of course, we have no intention of entering upon any anatomical details at present. * * * * *

M. *Foville* has not omitted to examine with due care the subject of the relations between the configuration of the Cranium and the form of the different regions of the Brain. He does not deny that, in a general manner, the volume of its contents is indicated on the cranium by the modifications of its surface; but he qualifies this admission by expressing his belief that, if we wish to remain in the truth, the science, which professes to study these connexions, ought not to attempt more than merely to point out the most general relations, and avoid entering into details that are altogether conjectural, if not positively erroneous. Applying these principles to his own inquiries, he endeavours to determine the causes which preside over the formation of the constant osseous protuberances on the cranial surface. In his opinion, these *bosses* are attributable to the form and development of the cerebral ventricles. It is certainly well deserving of notice that each of these protuberances on the surface of the cranium corresponds in its shape and situation with an inflated or projecting part of the cavities in question. Thus, if we divide the two frontal protuberances by a section perpendicular to their surface, this section, if prolonged through the substance of the cerebrum, will be found to open the lateral ventricles at their anterior cornua. Again, if the parietal protuberance be treated in the same manner, you will come upon the ventricles where they are widest and project most outwardly; and the two superior occipital *bosses* are placed exactly over the posterior extremities of the ventricles.

It is very natural that the development of the brain should thus act on its osseous case. We know that, in the embryo, the place of the cranium is occupied by a membranous pouch which, although simple in some points, is reinforced in others by a fibrous doubling or lining. Now, an organ enclosed in this sac and gradually increasing in volume, will necessarily force outwardly the surrounding walls, and protrude them most forcibly at those points where they are thinnest,

and where, consequently, there is the least resistance; hence the projections or protuberances on the external surface of the cranial bones. Various pathological phenomena may be adduced in support of this law; thus, for example, we observe in hydrocephalous patients that all the cranial protuberances increase in proportion to the distention of the cerebral ventricles. In order that this take place, it is necessary that the containing envelope oppose a certain degree of resistance, and that it be closed at all points. Thus the protuberances exist when the cranium contains nothing but water in place of cerebral matter; but they are wanting if, with the absence of the encephalon, there be an opening of the cranium.

EXTRAORDINARY OPERATION; EXCISION OF PORTION OF THE COLON; CHARACTER OF FRENCH SURGERY.

THE following somewhat marvellous case, which occurred eleven years ago, was only recently communicated by the operator to the French Academy. A man, 28 years of age, had for several years suffered from frequent attacks of severe lancinating pains in the left side of the hypogastric region, which had become much aggravated for about six months before he consulted M. *Reybard* of Lyons. At this time, the abdomen was enormously enlarged from tympanitic distention. In the left iliac region, a hard tumour, as big as an ordinary sized apple, could be felt: it was deep-seated, but moveable. The bowels were very costive; and the patient was much distressed with tenesmus, which usually induced a discharge of purulent matter, tinged with blood, from the anus. No tumour could be felt *per rectum*. On one occasion, a considerable suppuration must have taken place; for, after passing a good deal of matter with the stools, the patient was very sensibly relieved. The opinion which M. *Reybard* formed of the case was, that a malignant tumour had become developed in the sigmoid flexure of the colon; and, as there was no rational hope of relieving the patient—whose health was rapidly deteriorating—by any internal medicine or external application, he decided on the removal of the tumour by operation. He proceeded in the following manner. Having made a free incision through the abdominal parietes, and a smaller one through the peritoneum, the diseased mass was with difficulty drawn out; and a pretty considerable extent of the mesocolon was embraced between two ligatures, in order to prevent hæmorrhage. A portion of intestine, about three inches in length, was removed with the bistoury, and the mesocolon was cut with scissors.* Several arteries were tied, and the ligatures left long, in order that they might be introduced into the cavity of the gut. The two divided ends of the intestinal tube were then brought together and secured by the over-cast suture. When this was duly done, the gut was replaced within the abdomen, and the outer wound was united with three stitches. Things went on favourably until the fifth day, when symptoms of irritation set in; but these were speedily dissipated by the use of leeches and emollient enemata. There was no alvine evacuation until the tenth day, when the ligatures of the outer stitches were removed. Five weeks after the operation, the patient eat solid food, went naturally to the closet, and seemed to be entirely cured. It was not for six

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* M. *Reybard* described to the Committee, appointed by the French Academy to report upon the case, the tumour as follows: "its size was that of an ordinary rennet apple; it was hard and of a grayish-white colour; it presented to the touch several tubercles; it occupied the two posterior thirds of the intestine—which, when opened longitudinally in front, was found to be considerably contracted."—*M. Reybard had lost this interesting pathological specimen!*

months that he began to experience any sharp flying pains in the left iliac region. These gradually increased in severity; and, at length, it was discovered that a new tumour had formed in the site of the old one. The patient's state speedily became worse and worse; his strength failed; and he died, about ten months and a half after the date of the operation. *There was no post-mortem examination!*

Remarks.—There are some circumstances connected with this case that must naturally make us pause before we can receive the report with entire confidence. How comes it that M. *Reybard* has allowed so long an interval to elapse between his extraordinary success and any communication of it to the public? How comes it that he did not most carefully preserve the specimen of excised bowel—the only palpable record of his operation? How comes it that there was no post-mortem examination of the parts? It is, nevertheless, fair to say that, the Commissioners appointed to examine and report upon M. *Reybard's* statements expressly state that, "whatever doubts may be entertained as to the nature of the removed tumour, we cannot doubt the excision of two or three inches of the intestine, so precise and circumstantial is the description of the operation that was performed."

This seems to us to be a not unseasonable opportunity of introducing a few remarks on the character of the practice of some of the leading hospital surgeons in Paris. They occur, we may observe, in the course of a statement put forth by M. *Guerin's* friends to vindicate him from the charges that have been made against his honour, for refusing to submit all his hospital reports to the Commissioners that were lately named by the Academy to report upon his tenotomic operations.

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"What would MM. *Roux*, *Velpeau* and *Gerdy* say, if any member of the Academy proposed to subject to a Committee of Inquiry the results of the practice, proverbially so unfortunate, of the first; or the ablations, so readily repeated, of cancerous tumours by the second; or the disastrous results of the attempts made by the last-named gentleman to effect a radical cure of hernia? Let these gentlemen be required to give up all their documents and hospital reports, under pain of being accused—doubtless, very unjustly—the one of want of skill, the other of rashness, and the third of all that might emanate from certain papers which, it is said, he preserves with so paternal a solicitude. Why not apply to them the *lex talionis*, and tell them that the inquiry proposed is all for the benefit of science and humanity? Surely what is right in one case, cannot be wrong in another of exactly analogous import. But it always so happens that those very persons, who are most prying into the affairs of others, are ever the most jealous of their own being submitted to public gaze. One might suppose, as M. *Velpeau* has pretended, that to a certain point the interests of science should level all personal differences; but, alas! this is not possible, when we find ourselves so situated that the spirit of party takes the place of science, and when passion usurps the seat of calm judgment. As to science, it is pretty clearly seen that its interests are but little thought of in the attacks of M. *Malgaigne*; and M. *Guerin* has most fairly recalled to the minds of all who take an interest in the controversy, that the Hospital Committee, composed of distinguished members of the Academies of Medicine and of Science, is now engaged in the examination of the subject under dispute. If the regard for the promotion of science were indeed the only principle that actuated the opponents of rachidian myotomy, they would not merely wait with patience for the report of this Commission, but they would of themselves remember, that M. *Guerin*, eight or ten months ago, applied to the Academy to appoint a commission to which he would willingly submit all his patients, and the reports of all his operations. But the question now is, not so much about the interests of science or of truth, as about personal enmities, indecent rivalries, and professional jealousies, which

prefer a calumnious attack upon private and public character to the discussion of theoretical and practical controversies."

So much for the angry bickerings between many of the members of our profession in the French metropolis. The much-vaunted Royal Academy of Medicine, while doubtless it serves to keep up an active spirit of Inquiry and Communication, is, alas! too often made the channel not only of much empty *niaiserie*, but also of much angry controversy, and occasionally, too, of most unbecoming reproaches.

Another Case of Artificial Anus in the Loins.

We have, on more than one occasion, directed our readers' attention to the bold, and, we think, most hazardous practice of M. *Amussat*, in cases of diseased rectum and other maladies, accompanied with obstinate and unyielding Constipation. The question will naturally occur to many, was there a fair trial made of all the ordinary remedies and means of relief, before resort was had to the formidable step of opening the bowel in the lumbar region? The last case operated upon is the following:—

A woman, 53 years of age, and hitherto of a robust constitution, began to be annoyed last April with a gradually increasing constipation of the bowels, and occasional attacks of sharp colicky pain. These attacks became more frequent and severe, and the fæcal matters, evacuated after the use of enemata, were found to be small, flattened, and smeared with a sanguinolent mucus. From the 12th of June, there was no intestinal evacuation either of fæces or of wind; and all means, that were tried to cause the bowels to act, utterly failed. No obstacle could be detected by an examination *per rectum*. On the first of July, M. *Amussat* performed the operation of making an opening into the descending colon in the left lumbar region, without dividing the peritoneum. After exposing the intestine by an incision carried through the integuments and muscles in this part, he passed a tenaculum into it, in order to secure it in its position, and then made a vertical opening in it with a pair of scissors. When this opening was sufficiently enlarged, the cut edges of the gut were fixed to the wound in the integuments, at the anterior angle of the wound, by means of three stitches. Injections of tepid water facilitated the evacuation of the fæcal matters.

The result was most satisfactory; no inflammatory or febrile re-action supervened; and, by the 30th of the month, the patient was "dans l'etat le plus satisfaisant." The artificial anus perfectly fulfilled its functions, the bowels acting very regularly; during the intervals between each evacuation, the wound was kept closed by a wax bougie.

M. Trousseau on the Signs of Auscultation in Young Children.

Every experienced physician must have found—if he has taken the trouble to examine the subject—that auscultation is of comparatively little value in the diagnosis of pulmonic diseases in early life. It is not often that the young patient can be kept sufficiently quiet to enable us to make the proper examination; and, moreover, the respiratory murmur is usually so loud and boisterous—especially upon any excitement—as completely to overpower any abnormal *bruits* that may be present. Fortunately the practitioner does not often feel the need of any extraneous means to aid his diagnosis in the thoracic diseases of infancy; the rational symptoms, as they have been rather absurdly called, being usually

quite sufficient. The following remarks were made by M. *Trousseau* in his clinical lectures at the Hôpital Necker.

"If the child be perfectly quiet, the breathing does not sensibly differ from that in the adult; the inspiration is rather noisy, while the expiration is scarcely perceptible; moreover, the former is exceedingly active and slow, while the second, on the contrary, is rapid and purely passive. But, if the child be restless, the inspiration is immediately rapid, and the expansion of the lungs cannot be perceived, while the expiration is, at the same time, slow, and accomplished with the aid of all those muscles which usually concur to the performance of this act. The air issues from the glottis in a small noisy stream. The expiration, therefore, is here essentially active, the very contrary of what it is in the normal state: moreover—and I insist upon this point—it must be very slow, while the act of inspiration is performed rapidly.

"This new rhythm it is very necessary to be aware of, because the character of certain pathological auscultatory sounds, which are thence derived, is more or less altered in consequence. In truth, if, as M. *Beau* believes—and in this opinion I quite agree with him—the blowing sounds and their numerous modifications really take place and are formed in the larnyx, and are transmitted to the ear through the indurated lung by the air in the trachea and bronchi, it must follow that they (the sounds) will be the more distinct and obvious in proportion as the passage of the air is accompanied with the most blowing noise in the larnyx. Now this is what we perceive to be the case in the adult. The inspiration is slow, and the expiration is rapid; the inspired air therefore passes more silently through the larnyx than that which is expired; and thus it is that the blowing sounds are most distinctly audible during the act of expiration. But if—as in the case of the restless child—the inspiration be performed rapidly instead of slowly, the blowing sounds are heard during expiration when it (the child) is calm, and during inspiration when it is restless and crying."

REMARKS ON HYSTERICAL PARALYSIS.

THIS form of the Protean disease has not attracted so much notice as we might have expected. Authors have seldom described it in a very distinct or special manner. All that *Georget*, one of the most recent writers, says respecting it, is in these words: "The troublesome consequences of hysteria are convulsive neuralgias, spasmodic retractions of various parts, paroxysms of suffocation, partial palsies, usually incomplete, of the senses and voluntary movements, &c."

M. *Piorry*, in his clinical lectures at La Pitié Hospital, has occasionally described some of its forms under the appellation of Hysteric Anervia. As in paralysis from the action of lead upon the system, there is no appreciable lesion of the nerves; but beyond this the analogy between the two forms of the disease; for the one continues until the cause be removed; while the other goes and comes without any evident cause, being so volant and capricious as often to defy all attempts to pursue it. All that we can say respecting it is, that it very generally follows upon any violent shock or exhaustion of the nervous system; an atony, inertia, and, lastly, a palsy is the result. When this atony affects the brain, there is a loss of intellect, a palsy of the mental faculties; and when the nerves are affected, then we have a palsy of those parts which the nerves supply; and this state continues until the loss of nervous power be restored, and the system recovers its former strength and repose.

The hysterical, like the other forms of paralysis, affect sometimes the contractility of the muscles; at other times the sensibility of the nerves; and in a third set of cases, both these systems suffer together and in an equal degree: the last-named variety is the least frequent in hysterical habits.

The phenomena of Hysterical Palsy are always more or less erratic; they disappear with facility, again to make their appearance ere long. Sometimes one hysterical phenomenon is replaced by another of a different sort. Thus *anæsthesia* may be replaced by *amyosthenia* or loss of muscular contractility, deafness by blindness, and so-forth. Their duration varies from a few minutes to several days or weeks; nay, they have been known to last for months, and even years, and then quickly and suddenly cease, with as little warning as when they came on. A woman, while the catamenia were upon her, dreamed that she addressed some words to a man, who did not answer her: it proved that he was dumb. The effect of this surprise was that, on awaking, she found that she had lost her speech herself. By the use of venæsection, and of a warm bath, she recovered her speech in the course of two or three days.

Perhaps Amaurosis is one of the most frequent forms of hysterical Paralysis of the nerves of special sense; deafness comes next; and then the loss of smell and taste. According to the observations of M. *Gendrin*, the loss of smell is a not unfrequent form of Saturnine Paralysis. Dr. *Gabrini* relates a curious case of a woman who, upon the cessation of the menstrual process, became affected first with loss of speech; then with palsy of the extensor muscles of the right leg, accompanied with anæthesia of the surface of the thigh and abdomen; afterwards with partial palsy of the respiratory muscles, giving rise to a violent dyspnœa; and lastly, with amaurosis of the right eye and with loss of smell. The patient ultimately recovered from all her infirmities.

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It has been often asked, how comes it that the extensor muscles appear to be always more affected by the paralytic weakness than the flexor—as we may fairly presume to be the case, seeing that paralytic limbs are almost always in a semiflexed position. M. *Gabrini*, in speaking of the saturnine form of the disease, accounts thus for the phenomenon in question: "Supposing," says he, "that the enfeebling effect of the lead poison acts equally upon both sets of muscles, we should remember that the extensors require for their action a greater degree of force than the flexors, in consequence of the latter having their points of insertion into the bones at a less acute angle than the former; and being, therefore, more favourably placed for moving the joints. Such being the case, we are not surprised that the extensors are the first which indicate a diminution of contractile power; and, as the action of the flexors is not correspondingly diminished, the result is that the affected limb becomes more or less completely bent."

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The following curious case occurred in the practice of M. *Piorry* some years ago. A young English girl was subject to hysterical attacks every month. As each attack subsided, she became affected with some form or another of paralytic weakness. At one time it was hemiplegia; at another time there was so complete an anæsthesia of certain limb or limbs that needles might be forced pretty deeply into the flesh without giving pain. Sometimes the sense of hearing was entirely gone; then she became blind, or the patient lost her speech; and thus it was that scarcely a single part of her body escaped being affected with a loss of power. Occasionally all these phenomena exhibited themselves together: there was an abolition, more or less complete, of the sensorial and locomotive faculties; the power of organic life and of the mind remaining quite intact. She usually recovered from these attacks in the course of a day or two. On one occasion she remained an entire month in this sad state; then, all on a sudden, she felt a sort of tremour in her head, as if a fluid ran along the spinal marrow, and all the morbid phenomena vanished, as if by enchantment.—*Annales Medico-psychologiques, Janvier*, 1844.

AGUE, A DISEASE OF THE NERVOUS SYSTEM.

THE following remarks are taken from the same paper by Dr. *Macario* as those in the preceding article. The subject of hysterical Paralysis is therefore partially resumed.

"It is worthy of notice—although the fact has usually been much overlooked—that Hysterical phenomena are sometimes complicated with intercostal Neuralgia; and it is a singular circumstance that, when this Neuralgia is situated on the left side of the chest, the patient is often affected with symptoms of Ague; and that when it is on the right, agueish symptoms are wanting, and the patient suffers from what has been called hepatic Colic—which, indeed, is only one form of neuralgia.

"These phenomena, if examined in all their bearings, may throw some light on the etiology of Intermittent Fevers. Have we not reason to believe that the element, so to speak, of these fevers is of a nervous nature? The very circumstance of their exhibiting paroxysms and intermissions—a feature that is strikingly characteristic of the class Neuroses—naturally leads us to this conjecture. If any organic lesion were present, (as some writers have most erroneously supposed,) think you that there would be every now and then so complete a cessation of all the febrile phenomena, that the patient and his friends might reasonably fancy for a time that the disease was entirely eradicated? We should think not. There might, indeed, in the case supposed, be a recrudescence of the febrile symptoms every evening and morning; but then they would nevertheless continue with greater or less distinctness and severity during the intervals.

"Among the long catalogue of diseases, none, but those of the class Neuroses, are liable to those regularly-recurring exacerbations and remissions. And the occurrence of paralysis, which is sometimes observed to appear and vanish with the febrile paroxysm—*Torti* and others mention such cases—may fairly be adduced as an argument in support of this view. There are, therefore, strong reasons for believing that the morbific element in Intermittent Fevers is of a nervous nature."

(There is certainly much in the history of Agues to warrant this view of their etiology. Besides the arguments adduced in the foregoing extract, we might point to the facts of Neuralgia being a not unfrequent sequela of such fevers; and of this neuralgia being often of an intermittent character itself, and being curable only by the use of anti-periodic medicines. Besides these considerations, others might be quoted. For example, how much are both diseases under the influence of the mind and feelings! Often has it been known that a resolute effort of the will alone has served to prevent or arrest an expected paroxysm of Ague, as well as a threatened attack of Neuralgia: and every physician knows full well that a change of air and scene will generally suffice to work an almost instantaneous change for the better—provided, as a matter of course, the diseases have not existed so long as either to have induced any organic or humoral change, or to have materially deteriorated the general powers of the system.)

OCCASIONAL TROUBLESOME CONSEQUENCES OF WEARING EAR-RINGS.

AFTER the wound which is made in piercing the ears, there happens sometimes a particular kind of affection, which has not been, that we know of, noticed by surgical writers. It is a fibro-cartilaginous tumour, which has for its root the cicatrix of the wound made in the lobe, and which, in course of time, may acquire a considerable size. We have had occasion to observe three cases of this kind during the last few years; and each time the tumour was formed on the pos-

terior side of the lobe. The first case occurred in a girl, ten years of age, whom I saw in the year 1839; the second, in a girl of eight years; and the third, in a young woman of four-and-twenty years of age, corpulent, and of a lymphatic constitution; for some weeks before she was married, she had been much distressed at the thought of appearing at her wedding without ear-rings; and she came, in the spring of the year 1842, to beg me instantly to perform an operation that might enable her to do so.

The affection was well marked in all the cases, but particularly in the first girl, of whom we shall now speak briefly. There was on the posterior side of the lobe of the right ear a globular tumour, mammillated, and nearly of the form and size of an ordinary hazel nut; it was of extreme hardness, covered with a thin skin, adherent, of a natural colour, and on its surface were seen very minute venous ramifications; its base attached to the lobe, adhered to it only by a root which traversed its entire substance; the tumour itself ending in a small cicatrix, which was on its anterior surface. On pressing the anterior surface of the lobe against the tumour, this root might be felt, and its extreme hardness was discovered; indeed, this prolongation was only the cicatrix of the wound made in the substance of the lobe when the ear was pierced.

In each of these girls, the presence of ear-rings had caused such pain as to oblige their parents to remove them very shortly after having had them put in.

In the second case, the tumour was of a less regular form, and its root was larger. Her parents formerly had had the tumour shaved clean off, and the ear pierced afresh to replace the ear-rings; but the child could not bear them, and the tumour re-appeared. The bride also had made several trials of this kind, but always without success; the root of the tumour gradually became larger, and acquired in course of time a prismatic form.

In each of these cases, the removal of the tumour was effected by first cutting the tumour clean away on a level with the surface of the lobe, and then enucleating its root by two elliptic incisions. The edges were brought together with a stitch, and the wound healed up without accident. The cicatrix did not serve for the re-application of ear-rings, as the parties had desired, and they were advised not to make a new puncture till a much later period.

On examining these tumours, it was found that the texture of the body and the root was of a fibro-cartilaginous nature.

In the month of November last year, I saw, in the Edinburgh Infirmary, under the care of Professor *Syme*, a woman who had, upon the lobe of the right ear, an affection in some respects analogous to that of which we have been speaking, but which, nevertheless, essentially differed from it. In this case the entire thickness of the lobe was hypertrophied, and had undergone a fibro-cartilaginous degeneration. The lobe was amputated by making two flaps, which, being held together by two sutures, healed quickly.—*Annales de Chirurgie.*

SPONTANEOUS RUPTURE OF THE INFERIOR CAVA.

A YOUNG soldier, of a robust constitution, was seized on the 30th of December with pain in the abdomen, chiefly in the umbilical region; it was not increased on pressure, nor accompanied with any other marked symptom. The medical officer of the regiment regarded it as *interalgic*, and prescribed rest and a gentle aperient. As the patient was no better in the evening, the cupping-glasses were applied on the right side of the abdomen, and gave immediate relief. He was left asleep at night, and early next morning was found dead in his bed. It deserves notice that this man had enjoyed excellent health up to the day when he was seized: the day before, he had mounted guard as usual.

Dissection.—The abdomen was much distended, and exhibited numerous dark

patches of discoloration. On dividing its parietes, a large quantity of blood flowed out. It was long before we could find out whence it had proceeded. At length it was discovered that there was a rent—large enough to admit the point of the finger—in the inferior cava, on the level of the last dorsal vertebra: its edges were irregular and fringe-like. All the viscera were quite healthy.

It follows from the pathological appearances in this case discovered on dissection, 1st, that the death must have been rapid; and 2d, that the perforation of the vena cava was probably consecutive upon an atrophy of the parietes of this blood-vessel.

The opinion of M. *Vidal* (*de Cassis*) on this subject is thus expressed in his "Traité de Pathologie Chirurgicale et de Medecine Operatoire:"—"Atrophy, when extending to each of the membranes which compose a blood-vessel, or even affecting but one of them, necessarily weakens it, and sometimes reduces the vascular parietes to an extreme tenuity. Hence arises the fear of these ruptures, which have been observed in the superior cava, the vena portæ, &c. These ruptures are either with or without some appreciable morbid lesion."

M. *Andral*, in his "Precis d'Anatomie Pathologique," cites a case in which, in the middle of a scuffle, a man in good health fell down suddenly, and expired in a few seconds. On opening the body, there was found a perforation of the abdominal vena cava. The edges of this perforation seemed as if they had been torn; but around it, the vessel appeared in a perfectly healthy state.—*Annales de la Chirurgie.*

TREATMENT OF BED-SORES.

A WRITER, in a recent number of *Walther* and *Ammon's* Journal, recommends the application of a lotion composed of equal parts of spirits of camphor and the vegeto-mineral water of Goulard. The parts that have become red by the pressure, should be repeatedly moistened with this lotion; it requires to be briskly shaken before it is applied.

If, in spite of this treatment, the skin should break, the zinc or lead ointment, to which some camphor has been added, is a good application. In still more obstinate cases, an ointment, consisting of four parts of fresh-prepared Tannate of Lead, and thirty of lard, has been sometimes found to answer extremely well. On the whole, however, nothing succeeds so uniformly, alike as a prophylactic remedy against the abrasion of the skin and a healing one to that which has become broken, as a solution of Creosote—prepared after the method of *Reichenbach*—in the proportion of one part of the oil to 80 parts of water.

When the affected part becomes gangrenous, fomentations with a decoction of Yellow Bark, to which some tincture of Myrrh has been added, may be useful. Some patients have found benefit from the sprinkling of the ulcerated surface with a powder composed of Bark, Camphor, and Myrrh; others, from the use of the Camphorated styrax ointment. The tinct. Benzoini compos., or Friar's Balsam, is often an excellent application to bed-sores. Whatever be the nature of the application employed, the most important remedy of all is the removal of pressure from the affected parts, by means of air or water cushions. The comfort derived from the use of these is most pleasing.

EXCISION OF THE ENTIRE SCAPULA WITH A PORTION OF THE CLAVICLE.

AN old soldier, who had served in the Imperial Guard during the campaigns of

1813, 1814, and 1815, had been for several years distressed with uneasiness and pain in the upper part of his left arm. In the course of time, a hard tumour formed there; being attached, it was thought, to the humerus: it was extirpated; and the wound healed kindly. Six months afterwards it was deemed necessary to amputate the limb at the shoulder-joint, in consequence of the cervix of the bone having become decidedly diseased. The round head of the humerus, as well as the surface of the glenoid cavity, was at this time most attentively examined and pronounced to be entirely free from any morbid alteration. This operation also succeeded perfectly. Little more however than half a year after its performance, the patient began to experience pains in the cicatrix, and ere long a new tumour formed in the site of the axilla. As this increased in size, the pains became more severe: it had already attained the bulk of the closed fist, when the case again came under the observation of Professor *Rigaud* of Strasbourg. The swelling was evidently of an osseous nature, and seemed to be attached to the cervix of the scapula; it was free from any adherence to the parietes of the chest, following all the movements of the shoulder: the clavicle seemed to be quite intact. After a tedious dissection the entire scapula, having the tumour affixed to it, was extirpated, the clavicle having been first cut across with a chain-saw passed under it. The cure was complete in the course of two months.—*Comptes rendus de l'Academie.*

HÆMORRHAGE AFTER LITHOTOMY, CHECKED BY CREOSOTE.

During the performance of this operation on a boy 14 years of age, it was remarked that, when the skin and perineal muscles were divided, there was a more profuse discharge of blood from the wound than usual. After the calculus had been extracted, the hæmorrhage nearly ceased for a couple of hours; but then it returned as profusely as ever. From its character, M. *Daser* suspected that the blood proceeded rather from a multitude of minute vessels than from any single one of considerable size. Several small arteries had been tied during the operation; and cold applications and absolute repose were now enjoined. These failing, the wound was plugged up with a piece of sponge; but, after a few hours interval, the blood having accumulated within the bladder, violent expulsive efforts came on and forced the sponge and a large quantity of coagula out. A canula was then introduced by the wound and retained in the bladder, and the sponge was replaced; still the bleeding continued. As the patient had now become very pale and faint, M. *Daser* had recourse to the local use of creosote. He dipped a sponge in the pure oil, and inserted it deep into the wound, having previously secured a piece of tape to it, so that it could be easily withdrawn at any time. For a few minutes the pain induced by the application was very sharp, but then it subsided altogether. The edges of the wound assumed a blackish-gray colour, and the hæmorrhage ceased. At the end of ten minutes, expulsive efforts ensued, and the sponge, along with a quantity of coagula, was expelled. A fresh sponge was introduced; and no further discharge of blood took place. M. *Daser* was for some time afraid lest the application of the creosote might induce a gangrenous inflammation of the deep-seated parts; but fortunately no such accident followed. Next day the sponge was again expelled, but without any renewal of the bleeding. Every thing went on well, and the wound was entirely healed by the end of the third week.

The styptic action of the creosote was well marked in the present case. Although highly irritating and almost caustic, the secondary inflammation that followed was very trifling.

M. *Daser* suggests its application to atonic, varicose, and other unhealthy ulcers.—*Graefe's and Walther's Journal.*

DISCUSSION AT THE ROYAL ACADEMY RESPECTING OPHTHALMIA.

A FEW months ago, there was a very lengthened and most elaborate discussion on this subject among the learned members of the French Academy. It was continued during at least five or six sittings, and the Journals of the day exhibited to the reader's eye page after page of the most wearisome, and often too most contradictory, assertions. As is generally the case with field-day harangues, but little light seems to have been thrown upon the question at issue by the numerous and long-spun speeches that were delivered. All that we propose to do is, to give a brief summary of the speeches of the members who opened the discussion.

M. *Velpeau* read a report upon a memoir by Dr. *Morand* of Tours, on an epidemic of Scrofulous Ophthalmia, which had prevailed among the sick prisoners of the Colony at Mettray. The disease had resisted every mode of treatment, until Dr. M., observing that it always commenced with an inflammation of the pituitary membrane, fortunately thought of applying the nitrate of silver to this part, by introducing up the nostrils an ointment—composed of from one to two parts of the salt to 20 parts of lard and almond oil. This plan was followed by the most pleasing results.

M. *Velpeau* expressed his regret that Dr. M. had not employed an anatomical denomination in place of the very faulty one of *Scrofulous* Ophthalmia. Since he had read this memoir, he had examined the state of the pituitary membrane in a great number of cases of Ophthalmia; but he had not found any traces of inflammation on it, except in a very few cases. In ordinary circumstances, therefore, the treatment of ophthalmia by any application to the nostrils he considered to be certainly not admissible; the practice may, however, he thought, be useful in certain cases.

M. *Roux* desired to learn from the reporter for what reason, and to what extent, he objected to the appellation of Scrofulous Ophthalmia. Does he mean to say that we should not designate ocular inflammations according to the nature of their causes? and that we should have respect only to their seat, and the tissue or tissues which are most affected? Does he wish us to believe that any one mode of treatment, —that by the application of caustic for example—is equally applicable to each and all of them, whether the disease have a syphilitic, a scrofulous, a rheumatic, or any other origin?

M. *Castel* remarked that a *Scrofulous* Ophthalmia cannot be said, properly speaking, ever to be epidemic; for there is no such thing as an epidemic form or variety of scrofula. It is quite a misnomer to attribute the character of *scrofulous* to an epidemic ophthalmia.

M. *Velpeau* said that he had no wish or intention to suppress the appellative qualifications of scrofulous, syphilitic, &c., superadded to the terms which designate the inflammations of different parts of the eye. All that I mean to affirm, he continued, is, that we cannot properly, in the present state of ophthalmological science, call one of these inflammations merely scrofulous, and nothing more; this appellation is not sufficient; we must indicate with greater exactitude the tissue that is affected, whether this be, for example, the conjunctiva, the cornea, &c., and then we may add an epithet to characterise its special nature. We should therefore speak of scrofulous conjunctivitis, scrofulous keratitis, &c., instead of employing a vague general term, as that of scrofulous ophthalmia for all inflammations of the eye.

M. *Gerdy* spoke to the following effect. "The German spirit, which is dominant in the present day in ophthalmic medicine, is essentially retrograde and antiprogressive. Our neighbours divide and subdivide diseases in the most arbitrary way, alike without reason and without measure. The eye is an organ of exceedingly small dimensions, not exceeding 12 or 13 lines in diameter in any

direction. Surely therefore it is difficult to conceive how inflammations, whose character on all occasions is to spread, can be confined to any one of the tissues of an organ, which is altogether so small. The innumerable divisions, endeavoured to be established in the voluminous works of the German writers, do not exist in Nature. I have no hesitation in saying, that it is utterly impossible to distinguish such a host of inflammations, such as the spirit of system has attempted to describe. I do not mean to assert that the inflammatory action may not be confined to some one of the parts or tissues of the eye, when it is not severe; moreover, I am ready to admit that it may commence in one part or tissue rather than in another; but what I maintain is, that the entire organ necessarily becomes in course of time more or less implicated in the morbid action, as soon as this acquires any degree of intensity. Read, if you have the patience to do it, the fastidious symptomatology that you find in the works of pathological writers, and you will meet, for each variety of ophthalmic inflammation, with a series of phenomena that it is utterly impossible to distinguish at the bedside of your patient. Then again as to the treatment to be pursued, this is generally the same in all cases. But it is not sufficient to point out faults and defects; we must endeavour to show how they are to be avoided and rectified. In my opinion, all that requires to be done is to describe the inflammation of the whole eye, indicating in the most simple manner how this morbid state may be confined in some cases to a single point, in other cases to two points, and so forth. As a matter of course, due attention must be paid to the idiosyncrasy and peculiar constitution of each patient."

M. *Velpeau* admitted that the infinitude of distinctions enumerated by German oculists is most unnecessary; but he did not go so far in his objections to their style of writing as the preceding speaker. I do not think, said he, that we should reject them all, as he seems to do. Although the anatomical elements are accumulated in the eye, it does not follow that they may not be affected with inflammation separately, at least in the earlier stages of the disease. Any one, who has attentively studied the diseases of the eye, can have no difficulty in distinguishing conjunctivitis, keratitis, iritis, &c. It is quite true that each of these inflammations requires the same remedies for their cure; but this holds true of all inflammations. Shall we therefore say that their particular diagnosis is unnecessary, and of no utility? Certainly not; for, though the general treatment may be alike in all, the local remedies that are required in each are different.—*Comtes rendus.*

Hypertrophy of the Cartilages of the Trachea and Bronchi.

Professor *Gintrac*, of Bordeaux, relates the following case in a recent number of the Montpelier Journal of Medicine.

A boy, eight years old, and of a delicate ailing constitution, had been from his infancy affected with a greater or less degree of dyspnœa, which was occasionally accompanied with sharp pains in the chest, and other symptoms of thoracic distress. He had been repeatedly admitted into the hospital; and had generally received relief, at least for the time, from bleeding and the application of blisters between the shoulders. When he entered the hospital on the 24th of May last, his breathing was exceedingly oppressed, so as sometimes—more especially in the evening—to threaten suffocation: there was, however, no cough present. Auscultation discovered nothing, except a strong sibilant noise in the bronchi; and every part of the chest was perfectly resonant on percussion. There was nothing abnormal in the pulsations and sounds of the heart, save that the former were somewhat more obscure than usual: the pulse too at the wrist was regular. The abdomen was rather full, but the evacuations were healthy.

This state, of which the most prominent symptom was a constant dyspnœa—

every now and then liable to great aggravation—had been but little relieved by the remedies that had been employed, such as enemata of Assafœtida, fumigations of Stramonium, the use of Calomel, Sulphuret of Soda, &c. The child left the hospital on the 8th of July, but was brought back 17 days afterwards; the symptoms then being unusually intense. The suffocative dyspnœa continued up till the period of death, which occurred on the 8th of August.

Dissection.—The body was much emaciated, the sternum was very prominent, the thorax was fuller on the left than on the right side, and the face and extremities were œdematous. The lungs were found to adhere to the thoracic parietes, except at the upper part on the left side, where there was present a small quantity of limpid serosity: in every other part the pleura, whose tissue was much thickened throughout, was more easily detached from the ribs and the intercostal spaces than from the surface of the lungs. The larynx was healthy, and so seemed the trachea likewise externally; but, on slitting it open, its parietes were discovered to be much thicker and harder than usual. This alteration was most conspicuous at the lower part, close to the point of its bifurcation: it extended also to the bronchi, for a considerable extent. The result was, that the calibre of the air-passages was very sensibly smaller and more contracted than in a state of health. The lungs were œdematous; for, on dividing them, a quantity of yellowish serosity oozed from the divided surfaces; the lower lobe on the right side was hepatized.

PERIODIC SWELLING OF THE KNEE CURED BY OPIUM.

A MIDDLE-AGED woman of intemperate habits, sprained her left foot in February, 1843. Six weeks after the accident, and when it seemed that she had quite recovered from its effects, the ancle-joint and lower part of the leg became suddenly very much swollen, hot and painful: this state continued for a few hours, and then gradually subsided. The swelling, &c. on the next and following days recurred about the same time of the day—two o'clock; and, after lasting for about three or four hours, disappeared. The general health remained perfectly good during all this time.

The periodicity of this affection, and the absence of all inflammatory symptoms, induced me, says the reporter, to order quinine, which was administered to the amount of 15 grains daily; the joint was, at the same time, ordered to be rubbed with a camphorated opiate liniment. These means were steadily continued for six days; but no benefit was produced. The starched bandage was then tried, with the view of preventing the recurrent swelling; but the use of it caused so much pain, that it was at once discontinued. Trial was next made of the affusion of cold water upon the joint, followed by brisk friction; the internal use of sudorifics and colchicum was conjoined with this local treatment; but everything seemed to be utterly impotent. On finding this, I began the use of the Acetate of Morphia. Its effects on the complaint were very speedily manifest; each day the pain and swelling became less considerable, so that, in the course of a week, the patient appeared to be perfectly well.

On the day however following that when she had discontinued the use of the Morphia, the swelling and other symptoms again made their appearance at about ten o'clock in the forenoon, and continued for nearly the usual time. I wished now to give another trial to the quinine; it was therefore administered in large doses, but again it failed. The Morphia was then taken, and with equally decided effects as on the former occasion. Its use was continued for a fortnight; after which it was suspended, without any return of the symptoms.—*La Belgique Medicale.*

Remark.—We saw a case, the other day, in which the right ancle was every now and then the seat of swelling and severe pain, extending up the leg, and disabling the patient—who was a young delicate girl—from walking. From the character of the symptoms, constitutional as well as local, we regarded the affection as of an hysterical nature, and therefore prescribed steel and bitters. The relief thus obtained was speedy and decided.—*Rev.*

MAGNETISATION OF A STEEL ROD BY THE MERE INFLUENCE OF THE WILL!

M. *Thilorier*, on the 11th and 18th of June last, endeavoured to establish, by a series of experiments before the French Academy of Sciences, the existence in the human body of a fluid or agency analogous to the electric, and capable of producing some very curious phenomena. Many facts, he said, might be adduced to prove this position, which will probably startle most who have not thought of the subject. Of these, one of the most satisfactory is that of magnetising a steel rod, placed upon the epigastrium, by the mere and unaided effort of the will! By the simple act of volition, this effect is produced; for it is well known that the mere contact of the rod with the surface of the body is not sufficient. M. *Thilorier* says that there are three principal points of the body from which the magnetic fluid escapes, viz. the hands, the epigastrium, and the forehead! In a state of repose or passiveness of the intellect and will, as for example during sleep, the effluvium, and consequently the magnetisation, are not however entirely null. In the hands, the currents of the fluid are parallel to the direction of the fingers and perpendicular to the palm; those of the epigastric and frontal regions are directed from below upwards, and from the feet to the head, in a curved line! The magnetic action is null, or nearly so, at the lower end of the spinal marrow; it increases in degree or intensity in proportion as we approach the neck! Currents emanate from every point of the cranial vault; but the most energetic of all is from the culminating point of the frontal bone! The energy of the currents depends on a variety of circumstances: it is more considerable about noon than at night, or in the morning; likewise more so in health than in sickness!—*L'Experience.*

TREATMENT OF HYDROCELE WITH IODURETTED INJECTIONS.

In more than 300 cases of this complaint treated with an iodurette injection, (composed of tincture of iodine 4 parts, and distilled water 125 parts,) by M. *Velpeau*, not a single accident or unpleasant symptom has ever occurred. One of the patients indeed died; but the fatal result in this instance proceeded from a purulent inflammation of the cellular tissue of the pelvis, quite unconnected with the operation, and not having any communication whatever with the affection of the scrotum. The average period for effecting the cure was 15 days. In one case only the injection found its way into the tissue of the scrotum, in place of the tunica vaginalis: notwithstanding this misadventure, no appearance of gangrene supervened, and the patient recovered without any unpleasant accident.—*Ibid.*

TREATMENT OF FISTULA LACHRYMALIS.

The practice that has been followed, for many years past in Italy, in the

treatment of chronic inflammation of the Lachrymal Canal, is to introduce a minute fragment of the *lunar caustic* into the fistula, if such be present; or by a small puncture made into the sac, if not. An acute inflammatory action is immediately set up; but by the following day this is usually much diminished, and ceases entirely in three or four days afterwards. The engorged parts then gradually subside, the purplish colour changes to a white, the tears resume their natural course, and every trace of the disease vanishes. In most cases a single application of the Caustic is sufficient. Professor *Lallemand*, we are told, very generally adopts this mode of treatment.—*Clinique de Montpelier.*

PASSAGE OF METALLIC MERCURY INTO THE BLOOD AND VARIOUS ORGANS OF THE BODY.

M. *Oesterlen* has performed a number of experiments on animals, with the view of determining this point. The results of these are as follow:—

1. It is indubitable that mercury may pass, in the metallic state, through the parietes of the blood-vessels, since minute globules of it have been found in the subcutaneous cellular tissue, and in the veins permeating it. The globules have never been discovered in the epidermic layers, but only in the deep-seated layers of the dermis, near the blind extremities of the hair-follicles; also in these follicles and in the sudoriferous canals. 2. The metallic mercury, rubbed on the skin, or introduced into the intestinal canal, may give rise to injurious effects, by passing into the current of the circulation. It is not easy to determine in what manner the metallic mercury, when once introduced into the circulation, becomes changed and modified, or how it then acts. At the side of the shining globules, M. *Oesterlen* always found a number of dull and dark-coloured corpuscles, which resembled a good deal the granules of a mercurial oxyde; these were found to be not acted upon by alkalis, but to be dissolved slowly in strong nitric acid, after being ground down into a fine powder. In the urine and in the bile, the mercurial globules did not exhibit any appearance of decided change. 3. Minute globules of this metal, in the state of fine division, may traverse the capillaries without producing any inflammatory *stasis:* their presence in the vessels does not seem to influence the formation of the blood or the development of the sanguineous corpuscles. 4. Small quantities of mercury, taken inwardly or applied on the skin, appear to pass chiefly into the parenchymatous substance of the spleen, liver and kidneys, and to be discharged by the last two emunctories.

M. *Oesterlen* has never been able to detect the presence of any globules in the *cells* of the liver, or in the corpuscles of the spleen, or in the minute tubercles of the kidney: they were always on the outer surface of these organs. He conjectures that they may have escaped from the anatomical preparation, after it had been put up. He has, however, detected them in the saliva, and also in the urine.—*Roser's Archives.*

ON THE QUANTITY OF CARBONIC ACID EXHALED FROM THE LUNGS IN TWENTY-FOUR HOURS.

THE results of M. *Scharling's* experiments on this subject are the following:—

1. The quantity of carbonic acid exhaled from the lungs varies considerably in different periods of the day.

2. These variations are attributable, in part, to the varying power or faculty of the respiratory organs to change the inspired air into the gaseous product; and in part also to the unequal movement of the circulation—the state of which is very sensibly affected by that of the process of digestion.

3. *Cæteris paribus*, a person exhales a greater quantity of carbonic acid when full than when he is fasting, and also more during waking than sleeping.

4. Men exhale more than women of the same age, and children more than adults.

5. In various states of sickness, there is considerably less exhaled than during health.—*Schmidt's Jahrbucher.*

On the Epidemic Intermittance of Intermittent Fevers.

The development of Agues in marshy countries is by no means uniform or constant: it is itself subject to intermittances. Thus, at Antwerp and its environs, in 1822 and 1823, these fevers began to become more common and severe than they had been observed to be for some years before. Their intensity increased during the following seasons.

"The periodical genius or type," says M. *Gouzee*, "arrived at its acme in 1826, the period of the memorable epidemic of Grouingen. During the three summer months of that year, which were remarkable for an almost constant dry heat of from 20° to 28° Reaumur, the number of insidious and malignant remittent fevers was considerable at Antwerp, among all classes of the population. During the month of July, twenty-five, thirty, and even forty fever cases entered the military hospital daily. In 1827, this epidemic constitution, although still very decided, was nevertheless not of so great violence; after having suffered a little remission in the following years, it re-appeared, and prevailed again with considerable intensity in 1834, 1835, and 1836.

"During this long succession of years, more particularly in the first eight or ten, nothing was so common as marsh cachexias, leucophlegmatic inflammations and engorgements of the spleen. It was not uncommon to meet with invalids in whom the hypertrophied spleen occupied the entire left side down to the pubis. The frequency of malignant fevers at that time obliged the medical men to be constantly on the watch. In 1837, a rapid change took place all at once: the intermittent fevers ceased, and their sudden disappearance coincided with the appearance of a severe epidemic of Influenza, which prevailed from the middle of January to the end of the following month. During the entire prevalence of this new epidemic, we did not meet with a single case of intermittent fever—a circumstance well worthy of notice.

"From 1837 to 1841, that is to say, during an interval of five years, the paroxysmal fevers were so rare, and so slight, that the sulphate of Quinine, formerly the anchor of safety in the majority of cases, had then in a manner fallen into neglect. The malignant remittent fevers, the obstructions of the spleen and the marsh cachexias had also almost entirely disappeared. At last the periodic fevers reappeared in 1842; and, during the following year, in our localities, they returned to such an extent and often with such gravity as could not fail to arrest the attention of all our practitioners. During the months of August and September of this year, the appearance of a good many cases of pernicious fevers was noted at Antwerp; a circumstance which, for more than six years before, had not been met with in practice."

These variations proceeded, according to our author, from dry prolonged heats, without great agitations of the air, and cold nights.

"In our low and marshy countries," he observes, "it is not, as many physicians believe, the humidity of the atmosphere that occasions the development of intermittent fevers. There is no situation in which fewer paroxysmal fevers are met with when the seasons, in which they generally show themselves, are rainy and damp. If the humidity of the air is necessary to their development, it is in districts not so low as ours, in order to prepare the work of miasmatic

decomposition, which it requires other conditions of the atmosphere to complete."—*Journal Belge.*

Remark.—From the tone of the preceding observations, our readers will perceive that medical men on the Continent are beginning to pay attention to a subject, connected with the history of diseases, which has been far too much neglected in the present century—we mean the nosological influences of seasons, atmospheric changes, and so forth. We need not say that the writings of *Hippocrates*, *Sydenham*, *Baglivi*, &c. are pregnant with allusions to this matter.

THE BEST MEANS OF PREVENTING THE MARKS OF SMALL-POX.

ZIMMERMAN and ROSEN were the first to make it generally known that the development of variolous pustules might be much arrested by the application to the skin of mercurial plasters. This fact had been nearly forgotten, when M. *Serre*, and subsequently MM. *Briquet* and *Nonat*, drew the attention of the profession to the value of this mode of treatment, to which the appellation of *ectrotic* has been applied. According to their experience, nothing answered so well for this purpose as the *emplastrum Vigo*—a mercurial preparation somewhat similar to the *emplastrum hydrargyri cum ammoniaco* of the London Pharmacopœia. The recent experiments made by *Coppen* confirm and give additional value to the remarks of these gentlemen. He found that, if common mercurial ointment be applied to the papules of small-pox from their first and earliest appearance, they do not suppurate, but speedily contract and dry off: this ointment, however, has not the effect of preventing the eruption of the papules, however early in the disease it may be applied to the skin. But the *emplastrum Vigo* he has found to have superior efficacy; for, according to his observations, it serves to arrest the eruption of the papules, as well as to prevent the suppuration of those that have already appeared.

Dr. C. has also tried the effects of an ointment containing sulphur, as an application to the skin in Variola; but the results of his experience are certainly not favourable to its use.—*Annales de la Soc. Med. de Gand.*

TREATMENT OF THE ITCH IN BELGIUM.

THE following circular has been addressed to military surgeons by the Inspector-General of the Belgian army.

"Each patient is to be supplied with an ounce or an ounce and a half of liquid sulphuret of lime in a small pot: this quantity he is to rub carefully and slowly with his hands on every part that is covered with papulæ. If there be any papulæ on the back, another patient is to rub the liquid upon that part. The operation is to be repeated three times in the twenty-four hours, so that each patient consumes three or four ounces of the sulphuret daily. A bath is to be taken every alternate day; the frictions are to be suspended on that day. Fifteen frictions (or ten days use) are usually sufficient for the cure of the disease, if the medical officer in charge sees that the remedy is properly used."

The sulphuret is prepared thus: take of sublimed sulphur 16 pounds, and of quick lime 32 pounds; boil in 80 pounds of water for three-quarters of an hour. Let the mixture rest for some time until it settle, and then let the clear fluid be decanted off. Boil the residue afresh in about the same quantity of water, treat it in a similar manner, and add this decoction to the first. Usually 140 pounds of the sulphuret, at 12° by the areometer, are thus obtained. If the liquid be

more dense, it should be lowered to this standard by the addition of rain water.—*Ann. de la Soc. de Med. d'Anvers.*

CASES OF POISONING WITH CANTHARIDES.

The practical question as to the best mode of treatment in this accident is well illustrated by comparing the following two cases with each other.

Case 1.—A lunatic, 45 years of age, swallowed about half an ounce of a paste which contained nearly two drams of powdered cantharides; this was about half-past seven o'clock in the morning. In the course of a quarter of an hour afterwards, attempts were made to provoke vomiting by administering tartar-emetic, and ipecacuan in hot water. Copious vomiting was speedily induced, and the patient rejected so much of the ingested mass, along with much of the mucus of the stomach, that it was believed that very little of the poisonous matter was left behind in the stomach. Towards the after part of the day, the patient's body was found to be very cold, and his pulse at the same time was contracted and rather indistinct. A slight re-action ensued, and this state lasted for about twelve hours, when symptoms of adynamic depression returned, and next day the patient died about eight o'clock. The only treatment that had been adopted was the free use of mucilaginous and other emollient drinks. This case is related in the *Giornale delle Scienze Mediche di Torino*, and is thus commented upon by the French reviewer in the l'Experience.

"It is highly probable that the fatal termination in this instance might have been prevented, if, in place of trusting to the use of such inefficient means as soothing diluents, the medical men had pursued what is commonly called the *medicine of symptoms*—the only rational method, it may be observed, to combat the constitutional phenomena of poisoning. Two circumstances in the preceding case rendered it favourable for successful treatment: 1. The one was the copious rejection of the contents of the stomach by vomiting; and 2, the little soluble form in which the poison existed. The paste had not remained sufficiently long for it to become dissolved in the juices of the stomach and absorbed into the system. The fatal result may therefore be attributed in part to the adoption of an erroneous treatment. The physician in the next case understood his duty better, and the consequence was that he saved his patient."

Case 2.—A healthy and middle-aged man swallowed a scruple of powdered cantharides, which had been mixed with his food by some friends in sport. In the evening he felt a sense of burning and constriction in his mouth and throat, also nausea and frequent efforts to vomit, shiverings and tremour in his limbs, &c. The general weakness and depression became greater and greater; the twitches, pains and formication in the limbs and back were more troublesome; the urine was passed with great difficulty and scalding; there was a distressing tenesmus; the thirst was intolerable, and the extremities were continually icy cold. During this (the second) day nothing but acidulated and demulcent drinks was administered; but, as the symptoms became gradually more alarming—for paralysis of the lower extremities, and bloody micturition had now come on,—Dr. *Podrecca* was called in. At this time the patient's countenance was pale and livid, his eyes were hollow and dark, and his pulse was exceedingly low: he complained of intense anxiety at the præcordia, occasional priapism, severe pains in the abdomen, &c. Wine, spirit of canella and laudanum were immediately ordered to be given in frequently repeated doses; so that, in the course of twelve hours or so, the patient took 5 *litres* of the first, 4 ounces of the second, and 4 scruples of the last. The unfavourable symptoms gradually decreased, and next day the

patient voided his urine prettly freely—which he had not been able to do for thirty-six hours. The weakness and cramps in the lower limbs continued for some time afterwards; but these also subsided in the course of a few days.—*Annali Univ. di Medicina.*

Remarks.—If our readers will turn back to the Number of this Journal for April, 1839, they will find some very interesting observations, by Dr. *Giacomini* of Padua, on the subject of poisoning with Cantharides. He shows that this substance exerts a powerfully contra-stimulant and hyposthenic effect on the system; and therefore that the proper remedies to be administered, in cases of poisoning with it, are stimulants and cordials.

Besides this article, there is another in one of the subsequent numbers, wherein M. *Orfila* (we believe) has described a good many experiments where animals were poisoned with Cantharides; and in these also it was found that the chances of recovery were always in proportion to the freedom with which stimulants had been administered.

The fear of administering stimulants in cases of poisoning with acrid substances is too common. It should be remembered that the great object of treatment, in such circumstances, is to combat and overcome the *tendency to death*; and, therefore, that our practice should be regulated by the nature of the symptoms that are present, and not by our suspicions of the pathological lesions that may have been induced.

A TÆNIA EVACUATED THROUGH AN OPENING IN THE ABDOMINAL PARIETES.

Bremser, Rudolphi, Cruveilhier and others, have questioned the accuracy of the recorded histories of lumbrici making their way through the parietes of the intestines; but the more recent researches of M. *Mondiere* would seem to prove indisputably the perfect authenticity of the alleged fact, and to show—

1. That Lumbrici may work themselves a passage through the parietes of the intestines, by simply separating the fibres of these parietes by means of their head or anterior extremity;

2. That, by reason of the contractility of the muscular fibres of the intestinal parietes, the opening, which has given passage to the worm, is immediately obliterated, and leaves no perceptible trace behind;

3. That, in consequence of this arrangement, a verminous tumour, when it opens outwardly, cannot communicate directly with the cavity of the intestines;

4. That a verminous tumour may be formed at any point of the abdomen, but that it is most commonly developed about the inguinal and umbilical regions.

Instances of the discharge of Tæniæ in this manner are of much more rare occurrence. Only two cases are on record, as far as we are able to ascertain. One is related by *Mouleng* in the Journal de Medicine, tome LVI., and the other by *Sporing*, in the Memoires de l'Acad. des Sciences de Suede, tome IX. In both these cases, however, the presence of fæcal matters in the verminous tumour, and the permanence of a fistula after the discharge of the tænia through the abdominal parietes, induce the belief that the worm had made its way outwardly through an *ulceration* of the bowels.

The following fact, recorded as it is with all necessary details by Professor *Siebold*, serves to make it probable that a *tænia* may traverse the parietes of the intestines by merely separating their fibres, in the manner that *lumbrici* are in the habit of doing.

A young man was received into the surgical hospital in consequence of several scrofulous abscesses on different parts of his body. A tumour, which was sup-

posed to be of this nature, occupied the umbilical region. A few days after his admission, Dr. *Herz* was in all haste summoned to the patient, as the swelling had suddenly burst, and given issue to a tænia, which was alive and moved about quite freely. It was cautiously laid hold of, and slowly and very gradually drawn out to the extent of several ells. No gas, chyle, bile or fæcal matter escaped from the opening; in short, there was nothing to lead to the suspicion that the verminous swelling had any communication with the cavity of the intestines.—*Medicinische Zeitung fur Heilk. in Preussen*, 1843. No. 17.

M. Cazenave on Alopecia, or Baldness.

The causes of this lesion or defect are numerous and varied. It is very common after small-pox and other severe febrile affections; also in the course of phthisis and other protracted diseases. Whatever attenuates and exhausts the powers of the system, is sufficient to induce it. Thus, it is not unfrequent among prisoners and the inmates of workhouses, gaols, &c.; and who does not know that intense or long-continued mental application and moral emotions of a depressing character cause the hair to fall off, as well as change its colour from dark to sober gray?

Baldness appears to be sometimes owing to a syphilitic taint. There has been a good deal of difference of opinion among medical men on this point; but M. *Cazenave* thinks that there cannot be a reasonable doubt on the subject. And let it be understood that he does not allude merely to the form which has been attributed to the action of mercury on certain constitutions, nor yet to that which not unfrequently occurs when there is an actual venereal eruption, whether tuberculous or squamous, present on the scalp at the time; in such cases there is not any reason to attribute the falling off of the hair to the constitutional *nature* of the disease, rather than to the local presence of the tubercles or pustules. But what M. *Cazenave* means by Syphilitic Alopecia is a genuine secondary symptom, which may occur without any co-existing farinaceous exfoliation, or other manifest disease of the cutaneous tissue. This species of Alopecia is not so rare as is generally imagined. Among other cases, M. *Cazenave* mentions one that may be worth noticing. It occurred in a middle-aged man, who had been affected with gonorrhœal inflammation of the testicle. At the end of four months, and without the appearance of any other secondary syphilitic symptom, the patient lost almost all his hair, which was strong and of a dark colour. The Orchitis remained for a long time imperfectly cured—a relapse of the disease occurring every now and then. When recourse was had to the steady use of mercurial frictions, it was observed that the hair of the head ceased to fall off.

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Alopecia is not unfrequently caused by the cutaneous affections which have been called *herpes tonsurant*, *porrigo decalvans* and *pityriasis capitis*, and by other squamous diseases. The scalp becomes the seat of an inflammatory action, which betrays itself sometimes by a more or less copious formation of scales, and at other times by the eruption of red papulæ or patches, which are followed by the exfoliation of the cuticle. This dermoid inflammation does not affect either the bulb or the piliferous tube; but the hair, being surrounded and girt, at its passage through the skin, by inflamed tissues, so as to be compressed in a sort of squamous channel, becomes dry and friable, and then breaks off: in this manner the part becomes gradually bald, either spontaneously, or in consequence of over-combing and brushing it. Such is the nature of *pityriasis capitis*—an affection, by the by, that is perhaps the most frequent in those women whose hair is dark, long and thick. It is very generally aggravated by the use of those very means that are used to remove the scurf and scales. M. *Cazenave*

has often had occasion to observe it in ladies who suffer much from neuralgic headaches. As the pilous bulbs remain unaffected, the hair often grows again; but only, at least in most instances, to fall off with greater readiness than before.

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All the acute diseases of the hairy scalp—from Erythema and Erysipelas to Eczema and Impetigo—may induce a more or less complete state of baldness; and, as the dermoid inflammation sometimes penetrates to the piliferous tubes, the capsules or bulbs may eventually become seriously affected. This is especially apt to be the case in those impetiginous eruptions that are known by the name of *tinea*. As a general remark, however, it may be asserted that the baldness, which supervenes upon any acute affection of the scalp, is of short continuance, and that it rarely and only occasionally happens that the bulbs are destroyed, or the piliferous tubes obliterated. To this form of the disease, we may refer the baldness that is often induced by venereal eruptions—a variety of the disease that is very different, as we have already noticed, from the genuine syphilitic Alopecia.

The baldness that ensues upon *tinea favosa*, seems to be owing to the obstruction of the piliferous tubes, and to the consequent obstacle that is presented to the passage of the hairs through them. Hence it often happens that, during the continuance of this disease, the scalp over a considerable extent exhibits a white and shining aspect, without any distinct follicular orifices, and with perhaps only a few scattered hairs. Now this state of the skin cannot at all properly be regarded as a cicatrix of the skin, but rather as a new tissue, very thin in substance, devoid of colour, and having, in consequence of the obliteration of the sebaceous orifices, lost its natural polish. But, if the piliferous tubes have been obliterated, the bulbs have not been destroyed. Hence we can easily discover with the lens, if not with the naked eye, the hair which, under this sort of transparent cicatrix, is about to issue at several points from the external envelope which it cannot pierce, and under which it is sometimes seen to bend upon itself, until it becomes atrophied and the bulb along with it.

The causes of Baldness being so various, the treatment of the complaint must necessarily be different in different cases. The first thing to be done is to determine whether the skin be actually diseased or not. If the falling off of the hair co-exists with a healthy state of the integument, the cause of the complaint must be sought for in the general or constitutional condition of the patient. Its nature is very often manifested by the existence of certain concomitant symptoms, such as the presence of headaches, certain exanthematous eruptions, &c. If there be any local affection of the scalp, the diagnosis, at least for all practical purposes, is obvious: it is to the existing eruption that our attention must be directed; for the baldness is only the result of it; and, by removing the cause, the effects will gradually pass away.

When we have reason to believe that the bulbs of hair are fairly atrophied or destroyed, it is evident that we cannot reasonably expect to remove the baldness. If this be the effect of a deficient secretion, and the expression of a particular constitutional condition, the case will require a two-fold plan of treatment, one local and the other general. Repeated shaving of the head should be enjoined; for this process seems not only to produce a very beneficial local excitement, but also to render the function of secretion more active.

In the baldness, which sometimes supervenes upon tedious recovery from accouchement, as well as upon fevers and many chronic maladies, we have only to use one or two very simple remedies—as, for example, dry rubbing of the scalp, to induce the re-growth of the hair—never forgetting, as a matter of course, the restoration of the general strength by appropriate treatment.

Very different is that which is required in that form of Alopecia which is accompanied with the loss of the colour in the scalp—as we see in cases of *vitiligo* and *porrigo decalvans*. Here we must trust almost exclusively to special reme-

dies; such as stimulant ointments and lotions—the immoderate and ill-timed use of which, in other forms of the complaint, so often does much more harm than good.

In Syphilitic Alopecia, the internal use of mercury or of the Ioduret of Potassium is necessary for the cure.

Whenever there is an exanthematous eruption present on the scalp, the remedies applied must be suited to the nature of the existing local affection, according as this is inflammatory or not. In *Pityriasis Capitis*, the local affection is usually of an inflammatory nature, and it must be treated accordingly. A very common and pernicious error is, that in such a case we should endeavour to excite the energy of the bulbs, and stimulate the secretion of the hair by those very means, which, by aggravating the inflammatory action, necessarily increase more and more the evil they were expected to relieve. All irritating applications should be avoided; and, when the inflammatory condition of the scalp is corrected, we may then with advantage have recourse to the use of an ointment composed of a little borax and lard, blended well together: a weak alkaline solution also will be found useful in many cases. All sorts of warm and tight head-dress should be most religiously avoided; and benefit will generally be obtained from the regular use of tepid bathing.—*Annales des Maladies de la Peau.*

M. Lisfranc on Hæmorrhoidal Tumours.

Hæmorrhoids cannot properly be regarded as *erectile* tumours. They are formed by a sort of fibrous tissue which is traversed by blood-vessels, that are liable to become every now and then more than usually swollen and congested. However great the congestion may be, the vessels in hæmorrhoidal swellings are never so numerous as in properly-so-called erectile tumours.

In several thousand cases, says M. *Lisfranc*, in which I have extirpated the lower part of the rectum, I have scarcely ever met with a truly erectile tumour in this part.

The non-erectile nature of hæmorrhoidal tumours renders our prognosis much less unfavourable, and renders unnecessary, in the treatment of them, the operation that is usually indispensable for the cure of erectile tumours.

As to the *treatment* of hæmorrhoids, we have to attend to many circumstances for the regulation of our conduct. If they are in a state of inflammation or painful congestion, we should first determine whether the symptoms be remittent or permanent. In the former case, we should be on our guard not to check suddenly any discharge of blood from the anus, more especially in such habits as are of an apoplectic tendency; for, indeed, a hæmorrhoidal hæmorrhage often seems to serve the same purpose in the male system as the catamenial does in the female. If, however, the pain becomes very severe, or if the hæmorrhage is so profuse as to demand the interference of the medical man, the question occurs: should we, as is so generally done, have recourse to the application of leeches to the anus? This treatment will certainly answer tolerably well on some occasions; but most frequently the local congestion is thereby aggravated rather than remedied. What we should do in such circumstances is to draw blood from the arm to the extent of ten, twelv, or sixteen ounces, on the first day; and perhaps repeat the operation to the extent of four or six ounces on the following. The use of a warm bath will much promote the good effects of the bleeding. If the introduction of the canula up the rectum does not produce much pain, an enema of nearly cold water, to which a few drops of laudanum should be added, is a very useful remedy. No poultice should ever be applied to the anus, as it only serves to increase the congestion of the already overswollen vessels.

When the hæmorrhoidal tumours are protruded through the anus and are constricted, and perhaps partially strangulated by the sphincter, how should the surgeon proceed to reduce them? It is generally recommended that he first smear his fingers with oil or some other unctuous substance. Such an advice must surely have been given by one who is not acquainted with practice;—for the protruded tumour is usually too slippery, and we require to wipe its surface before attempting to replace it. The object and endeavour should be to push gently backwards and upwards, first, that portion of the gut which was last protruded, and so on gradually until the whole is re-introduced. If the patient strains much during this operation, his attention should be distracted as much as possible.

Let us now briefly notice the treatment of hæmorrhoidal tumours when they are in a chronic condition. If they are readily reducible, and are not attended with pain or any great inconvenience, they are generally excised, without much consideration as to the risk which the patient may thereby run; for it never should be forgotten that the extirpation of hæmorrhoids is not wholly devoid of danger. For myself, I generally avoid operating in such circumstances; and, being convinced that surgery, when it effects a cure without the loss of blood, is a thousand times more brilliant, I avoid, as frequently as possible, having recourse to the use of cutting instruments. For the purpose of diminishing the size and fulness of hæmorrhoidal tumours, I enjoin a mild and soft diet, cooling drinks, and occasional spoliative or derivative bleedings. When this treatment is insufficient, I find an excellent adjuvant in directing a stream of cold water upon the anus, or even up the rectum. We often effect a cure by this means; and in almost every case, the general health of the patients becomes, at the same time, decidedly improved. When we cannot command the use of the *douches*, we have found a useful substitute for them in gently touching the surface of the protruded hæmorrhoids with the nitrate of silver, with the view of stimulating and not of cauterizing them. The *bourrelets* usually shrink up in consequence of the excitation induced, and do not again protrude.

If the hæmorrhoidal tumours exhibit simple ulcerations, they should be cauterized with the nitrate of silver, or with the acid nitrate of mercury. If the ulcerations are of a decidedly unhealthy nature, and the tissues be indurated, the diseased part should be excised. To guard against the excessive, and sometimes fatal, hæmorrhage that may occur after this operation, I recommend the following plan:—let the hæmorrhoidal *bourrelet* be first laid hold of and drawn out by a tenaculum, and surrounded by two elliptical incisions; in place then of removing it by one or two sweeps of the knife or scissors, it should be detached slowly by successive strokes at different points of its circumference. By adopting this method, the blood-vessels, as they are divided, are prevented from being retracted upwards: they can therefore be secured either by ligature or by torsion. When I come to the point of the circumference of the *bourrelet* at which I begun, I lay hold of the mass to be divided between my thumb and fore-finger, in order to find out if it contains any artery which may be easily commanded; and then I detach it very cautiously and leisurely, dividing it by successive strokes of the bistoury. Even this operation is, it must be confessed, tedious, painful, and occasionally followed by fatal consequences.—*Gazette des Hôpitaux.*

Clinical Review.

ST. GEORGE'S HOSPITAL.

Report of some Cases occurring under the Care of Mr. Henry James Johnson, Assistant Surgeon.

Some years ago, I related, in this Journal, several cases of an affection of the Deltoid Muscle, and made some observations on its nature. Although those observations were founded on the cases I had actually witnessed, they made no claim to absolute originality, a paper being published on the same subject about that time, or just prior to it, in the Midland Journal. As the complaint does not appear to be generally understood, no apology, perhaps, will be considered due, for attention being again directed to it.

It essentially consists in loss of power, more or less complete, in the deltoid muscle, accompanied with pain in the attempt to use it.

The arm hangs, or is supported, by the side. It can be moved, or rather swung, backwards and forwards in a limited degree, but more forwards than backwards. The elbow can be carried to a small distance only from the side, the attempt to elevate it to a horizontal plane with the shoulder, being not only painful, but impracticable. The hand, of course, cannot be raised to the head, nor can it be carried back to the spine, and the want of power to effect these movements is evidently due, in some degree, to pain, felt in the deltoid, generally at its insertion, and often felt, too, on the front and side of the humerus.

It is clear, on inspection, and indeed from this description, that the deltoid is the muscle principally concerned. It is usually found to be attenuated, the wasting being in the ratio of the severity of the complaint or its duration. Sometimes one portion of the deltoid is more affected than another; the central and posterior divisions suffer most. Pressure on the muscle gives some uneasiness over its insertion—it may even give pain.

But it is not, in all cases, the deltoid alone that is at fault. Other muscles around the joint may be involved. It would be difficult to particularize them with accuracy. I have found the coraco-brachialis very obviously affected, and have thought that the biceps was implicated.

With the progress of the disease, the wasting of the deltoid extends to the whole limb, the paralysis grows more complete, the shoulder is almost fixed, and the movements of the extremity are limited to those of the hand and fore-arm. The pain ultimately diminishes or disappears, and the use of the shoulder-joint is lost.

So far as I have seen, the subjects of this affection have commonly attained middle life, or passed it. I do not remember having seen a patient under twenty years of age. They are for the most part of a rheumatic or gouty habit, and the general health has been such as might be expected from this circumstance—not absolutely bad, nor very good.

The apparent cause of the disease, is, in most instances, exposure to wet and cold; to that, at least, the patients have attributed it. And such is probably the case, although a predisposition must, I apprehend, be looked for in a gouty or rheumatic constitution. I am led to this opinion, partly from the history of the cases themselves, and partly from this consideration:—Persons of a gouty habit frequently suffer from pain in the shoulder, aggravated by the attempt to bring the deltoid into play, and sometimes even temporarily rendering it useless. Such persons cannot raise the arm, or carry it backwards without actual suffering.

The attack lasts for a day or two, or for a much longer period—occasionally, even, for weeks. These persons are also annoyed by fugitive pains in other parts of the body, particularly in the site of the extensor tendons, on the wrists, and on the instep. Their arthritic character is proved by the supervention, in some instances, of a fit of gout or rheumatism, as well as by the general habit of body. The transition from a slight case of this character to the paralysis of the deltoid that I have described is by easy and obvious gradations.

It does not appear obvious why the deltoid muscle should be peculiarly the seat of this affection. It is not more exposed to atmospheric influences than other muscles of the body, nay, it is not so much exposed as some, for example, the great pectoral. As I never had the opportunity of examining the state of the limb after death, I am unable to say what element of the muscle is *the* one affected. Is it the fascial envelope—or the interstitial and investing cellular tissue of the fasciculi—or is it the muscular fibre itself? Analogy and probability would point to the fascia and cellular membrane. One circumstance should not be lost sight of. The posterior circumflex nerve, a large one, is situated between the muscle and the bone, where it suddenly and profusely subdivides and is lost in the muscle itself. The nerve in its course, and at its subdivision, is immersed in a quantity of cellular tissue. It is difficult to suppose that this anatomical fact exercises no influence in the affection. It is *possible* that it may in some degree determine the liability of the muscle to the complaint—it is *probable* that it is the great cause of the extreme pain and the consequent paralysis. If any are disposed to doubt this explanation, they would do well to think of sciatica.

The treatment is, in the main, what would be naturally suggested by the character of the disorder. Persistent pain in any organ, aggravated by the exercise of its ordinary function, is in most cases, a sufficient reason for the employment of counter-irritation. And counter-irritation, actively and resolutely followed up, is what I have found of the greatest service. It is to blister after blister—the tartar emetic, in ointment or in plaster—and last, not least, the moxa, that we must seek, and shall find, the most efficient remedies. Colchicum and the iodide of potassium are of service in fair and steady doses. We may begin by purging and lowering somewhat, but we must not (for it is useless) pull the patient down too much, and after a while I have found my account in the exhibition of sarsaparilla. The vapour bath, almost always of advantage in this sort of case, may be beneficially resorted to, and, when the pain has subsided, frictions with liniments containing belladonna, electricity, and passive motion should be had recourse to.

I have hitherto said nothing of the exhibition of mercury. Yet, in an early stage of the complaint, when the suffering is acute, and the system strong, calomel and opium (the latter in good quantity) may be given so as to touch the mouth.

The affection is obstinate—the treatment seems for a time, unsatisfactory—but if carried out judiciously and patiently, it is ultimately, I believe, in most instances, successful. I was formerly less sanguine than I now am, of the issue. The real difficulty is to persuade the patient to submit, long enough, to the counter-irritation, that is requisite. That demands nerve, which some have not, and in them I should apprehend a less fortunate result than is desirable—permanent loss of power of the arm.

I subjoin one or two cases—not enough to bear out all the foregoing remarks, or furnish a clinical history of the affection, but merely those which have lately occurred, under the eyes of the pupils. A reference to one or two others will close this notice.

CASE.—Sarah Armstrong, married, aged 52, Feb. 15, 1843. Complains of much pain in the left deltoid muscle, on attempting to put it into action. Is unable to raise the elbow in the least, nor can she carry the hand backwards.

The deltoid is somewhat wasted. The other muscles of the arm appear unaffected, and she has perfect power over the fore-arm and hand.

She has been sufferring from the complaint for the last year and a half. She attributes it to cold. She looks thin and rather out of health, but has no prominent general indisposition.

Pil. hyd. c *colocynth.* gr. v. *o.* 3*tiâ nocte.*
Infus. gent. 3x. *Trae ejusd.* 3j.
Magnes bicarb. gr. x. *magnes. sulph.* ℥ss, *o.* 3*tio mane.*
Emp. canths. humero.

25th. No relief from the blister.

Emp. belladonnæ humero. Adde misturæ vin. colchici. ♏ X.
P. c. *pil.*

March 1st. *Rept. emp. lyttæ.*
11th. Mouth rather sore from pills—shoulder no better.

℞. *Pot. iodidi*, gr. v.
Dec. sarzæ co. ℥ ij. *bis die.*
Ext. col. co. gr. x. *p. r. n.*
Rept. emp. belladonnæ.

April 18th. Suffers more pain in shoulder, and is worse altogether than she was—she is to have electricity applied to the shoulder twice a week.

23d. Electrified to-day for the first time, as she did not like the idea of it before—much debility.

Haust. quinæ bis in die.
Ext. col. co. gr. x. *p. r. n.*

May 23. Has had electricity applied, but at present without benefit.

June 3. Can raise her arm a little, and but a little, from the side now. The moxa to be applied, so as to produce a superficial eschar.

24th. Much improved—has an ulcer on the front of shoulder, from the moxa, which discharges freely.

July 1. Can raise her hand to her head now, but cannot carry it backwards. *P.* c *moxâ.*

22d. Can carry her hand back a little way behind her head. *P.* c *moxâ.*

The patient continued to attend up to the 9th September. Her general health was pretty good, but she had gone on taking the quina, as she was very weak. The power of raising the arm was, in a great degree, regained; she could carry it much better, but not well, backwards and upwards. She complained much of general debility and looked out of health. Being so far recovered, she took a great dislike to the longer application of the moxa, and discontinued her attendance.

The above case has been reported just as it was recorded in the out-patient book. Nearly at the time at which it was under my care, there was another female, of middle-age, with the same affection of the right shoulder. She derived great benefit from two applications of the moxa, when, alarmed at it as very many people are, she too ceased to attend.

One of the most striking cases which has occurred to me was that of Colonel C. He had been exposed to weather in Ireland, and was of a family proverbial for gout. The left shoulder was first affected, and in spite of very active treatment, the use of that arm was temporarily lost. The other shoulder was then attacked, and the right arm, also, became paralyzed. By long-continued counter-irritation, medicines adapted to the gouty diathesis, and a prolonged employment of vapour and shampooing baths, he gradually regained the power of the limbs, and when I saw him, the other day, had scarce a trace left of the complaint.

II. CASE OF CYST, CONTAINING GLAIRY FLUID ON THE GUM.

Ann Downey, aged 46, married, with three children, Nov. 4th, 1843. Cyst the size of the end of the thumb on the outer and upper surface of the lower jaw, occupying the places of the right canine and two bicuspid teeth. She has had it for six months, and it is increasing in size. The bicuspides have been drawn—the stump of canine tooth left—no teeth exist behind the cyst—general health good. This began to form shortly after having had a tooth extracted. Having punctured it with a grooved needle, and let out some yellowish glairy fluid, I passed a curved needle, armed with strong silk, through the cyst, and the ligature thread was loosely tied in, so as to act like a seton.

7th. Discharge of Sanguineo-purulent matter from the interior of the cyst—no pain.

21st. Seton-thread removed, for stump of canine tooth to be extracted—which was done.

28th. Cyst still discharges, but much reduced in size, and the walls seem thickened—gum tender where tooth was drawn.

Dec. 8th. Seton-thread re-applied.

Feb. 14th. Continued seton in cyst till to-day, when it was withdrawn, as the cyst had quite disappeared, and its former situation was only marked by a line of thickening in the course of the thread. She subsequently presented herself well.

The case resembled ranula, in the character of the cyst, and the appearance of the fluid, save that it was yellower. It was treated with success, by what generally answers best for ranula—the seton.

III. RUPTURE OF THE INTER-ARTICULAR FIBRO-CARTILAGE BETWEEN THE LOWER EXTREMITIES OF THE RADIUS AND ULNA.

This is not, so far as I am aware, a common accident. I have seen only two cases of it. The following presented itself at the hospital—the other occurred in private practice.

Case 1.—Ann Sargeant, aged 62, March 8, 1844. Five weeks ago she fell, with her whole weight, on her right hand. The hand "dropped" immediately after the accident, and was quite useless. Inflammation about the wrist supervened, but subsided after a week's surgical treatment. She is unable now to use her hand in the least degree, and there is considerable swelling remaining, as of effusion into the sheaths of the flexor tendons of the wrist. The shafts of both radius and ulna are perfectly entire, but there is unnatural mobility forwards and backwards of the lower ends of the ulna. The carpal extremities of the radius and ulna are separated from each other, the former projecting forwards, and the wrist presenting very much the appearance of oblique fracture of the lower end of the radius. To have Scott's bandage firmly applied to the wrist.

Ext. col. co. gr. v., *p. r. n.*

28th. Hand feels stronger, and she can use it a little. Scott's bandage still firmly applied.

April 20th. Much more power over her hand—still keeps the bandage on.

May 4th. Has removed the bandage, and uses her hand freely, but cannot lift anything very heavy with it. To pump cold water over it every day, and subsequently employ friction, with a stimulating liniment.

She did not attend any more, but she was accidentally seen a week or two ago. The wrist was still weak—the deformity inconsiderable.

Case 2.—A gentleman, when hunting, was thrown from his horse, and fell on

the right hand and arm. He applied to the nearest surgeon, who examined the wrist, and pronounced that there was no fracture nor dislocation. On that evening, or the next day, he was seen by the family-surgeon, who considered that a fracture of the radius had occurred. He immediately came up to town to put himself under my care. When I saw him, the fore-arm and the wrist were so swollen, that it was inexpedient to meddle with the limb, and impossible to determine the nature of the accident. It had the *aspect* of oblique fracture of the lower end of the radius. By leeches and cold lotions the tumefaction was reduced in the course of a few days, and I was enabled to make an examination.

As in the former case, the lower end of the radius projected forwards, and this it was that occasioned the peculiar resemblance to oblique fracture of the lower end of the radius, where a projection always exists on the palmar aspect of the wrist. But the distinctive feature of the case was the prominence backwards of the lower end of the ulna, and its *unnatural mobility*. This proved, or seemed to prove, that the great bond of union between it and the radius, the inter-articular fibro-cartilage was torn. There was no fracture of bone.

With splints, bandages, and after three or four weeks' passive motion, with cold douche, and friction, all deformity was obviated, the ruptured cartilage appeared to unite, and perfect command of the wrist was restored.

I presume it must be admitted that, in these cases, the nature of the accident was such as I have supposed it to be. If so, the characteristic symptoms will be, great swelling—projection, towards the palmar aspect of the fore-arm, of the radius—unusual mobility of the lower end of the ulna.

IV. Cachectic Ulceration of the Tongue.

The following is a not uncommon sort of case. It is occasionally mistaken for secondary venereal ulceration, and is probably confounded at times with malignant changes of structure.

Case.—Richard Green, aged 43, Dec. 6, 1843. The tongue is red, glazed, and irregularly fissured—the median line is occupied by a deep ravine of ulceration. The largest ulcer is situated on the right side of the tip of the tongue, not very deep, and of a yellowish brown colour—great induration surrounding the ulcers—that on the right side of the tip of the tongue is as large as a thumb-nail. There is not much pain—the articulation is thick, and the tongue feels too big for the mouth. General health tolerable, but has a cachectic aspect. The complaint began gradually three months ago. Has not had syphilis—has taken some mercury at different times.

Ext. col. co. gr. v. *o. n.*
Haust. potassii iodidi bis die.

9th. Speaks better, and ulcers look improved.
Perstet.

12th. Improving.
Haust. cinchonæ ℥ iss.
Potass iodid. gr. v. *bis die.*
P. c Pilâ.
Lotio zinci sulph. gr. ij. *ad.* ℥j. *pro linguâ.*

19th. Ulcer nearly healed—less induration. *P.*

29th. Great improvement.

Jan. 1, 1844. Ulcer at right side quite healed—considerable induration—tongue glazed, very moist, and clean.
Perstet.

12th. Ulcers healed—less induration—tongue irregular, but not so red and glazed.

22d. Induration disappearing—no ulceration.

Decoct. sarzæ co. ℥ ij. *bis quotidie.*

Ext. col. co. gr. v. *p. r. n.*

26th. General health very good—fat—tongue improves fast.

Feb. 2. Tongue is still rather hard, and of a glossy, smooth, red appearance. No ulcer in any part.—*P.*

Mar. 11. Very slight induration of tongue now—it is touched with argent. nit. in the median fissure, where the ulceration was, as it feels tender.

Perstet.

April 10. Has continued the sarsaparilla up to the present date. There is still a little hardness left in tongue, but it is very slight, and he is to be discharged.

The progress towards cure in the preceding case was slow, as it generally is. But in some instances (they are rare exceptions) the patient recovers with rapidity.

A gentleman consulted me some time ago with the same affection of the tongue as the preceding patient. It had existed for three or four years, and he had tried many remedies in the country. He was dyspeptic, and had taken some mercury, but had nothing which could be fairly construed into secondary syphilitic symptoms. I prescribed sarsaparilla with the iodide of potassium—mild aperients, mercury being excluded from their composition—a very regulated diet and regimen—and the occasional application of the nitrate of silver to the fissures, which were daily washed with a lotion of bark and myrrh. In the course of two or three weeks the tongue was well. He had a relapse many months afterwards, but got well again with the same remedies.

The distinctive characteristics of cachectic ulceration of the tongue, are the irregular fissures—the yellowish ulceration, generally deepish, sometimes superficial—the induration limited to the vicinity of the ulcers—the glazed, red, and raw-looking surface (not, however, constant) of the organ—the absence of any indication of malignant disease—the indifferent tone of the general health—the persistence of the complaint without other symptoms, save, perhaps, those which are common attendants on cachexia.

This condition of tongue seems to me to occur in two states of system, differing in some respects, though allied in others. On the one hand, it is found in those who have been reduced to cachexia by mercury. It may then be combined, preceded, or followed, by the other symptoms of mercurial cachexia—rupia, ecthyma, nodes, phagedænic and serpiginous ulcerations on the skin and in the throat.

On the other hand, this condition of tongue obtains in those whose systems are debilitated by dyspepsia, especially by that form of it attended with morbid sensibility and irritability of the gastro-intestinal mucous membrane. We shall be the less disposed to wonder at this, when we remember how readily, in all persons, slight derangements of digestion lead to small, yellow, painful, and perhaps obstinate ulcers of the tongue, and cheeks, and lips. The continuity of tissue, and of function, readily enough explains the liability.

The affection, however it may have been induced, always seems to require tonics in some shape or other, regimen, diet, and all that can invigorate the constitution. Sarsaparilla has generally proved highly useful—the iodide of potassium not seldom so—the ammonio-citrate of iron I have beneficially combined with it—in short, the alterative tonics are requisite. Of course, the secretions must be regulated, and in those cases dependent on derangement of the digestive organs, small doses of mercury may be serviceable. But I should doubt the propriety of its administration, nor would I readily be induced to exhibit it, in such as may be found to display a connexion with the form of cachexia so often due to, and so frequently aggravated by that medicine.

NEW YORK HOSPITAL.

RENAL DISEASE. BY J. A. SWETT, M. D.

In our New York contemporary for July last, we have a report from Dr. Swett, of eight cases of renal disease, which we shall briefly notice in this article.

Case 1.—Mary Burke, 31 years of age, entered the Hospital, 27th Nov. 1843. In the latter end of March preceding, after parturition, began to complain of dull pain in the loins and limbs—with pale urine—costive bowels—and, soon afterwards, œdematous feet, gradually extending to the abdomen. This state, with little variation, continued till her entry into hospital. The urine now evinced much albumen—tongue coated in centre, red and glossy at the sides—appetite good—bowels relaxed—skin dry—pulse 100 and weak. Morphia at night with decoct. querci. Dec. 5. Passes from five to six pints in the 24 hours—bowels dysenteric—cough. Expectorants—morphia—nitrate of silver with opium. Dec. 24. Seized with severe pain in the lumbar region—epigastric tenderness—vomiting of dark matter—diarrhœa. Five grains of blue pill thrice a day. Jan. 1, 1844, seized with convulsions—death in a few hours.

Post-mortem.—Pneumonia of the right lung—liver presented the first stage of cirrhosis—kidneys enlarged, of a uniform pale yellow colour, granulated, soft, and flabby—cortical portion hypertrophied—tubular portion livid red colour—pelvis natural.

The second Case was one of Phthisis in a young man, where no renal disease was suspected, and who died suddenly. Disease of the kidney as well as of the lungs was found.

Case 3.—This was also a case of phthisis, in a man, 37 years of age, where kidney disease supervened, exhibiting œdema, ascites, dyspnœa, coagulable urine. He had no pain in the loins. Antiphlogistic treatment was adopted. Blood drawn was highly buffed. Cupped on the loins—warm-bath—low diet. In three weeks the dropsy had increased—cough very troublesome—cupped again on the loins, and the bath and antiphlogistic means continued. This treatment lessened his sufferings, diminished the albumen; but increased the dropsy. Diuretics were tried and abandoned; and diarrhœa and erysipelas terminated life.

Post-mortem.—Heart and pericardium healthy—lungs tuberculated in various stages—ulceration of the larynx—liver pale and granulated—kidneys rather enlarged, pale and flabby, but mottled with red spots—no granulations were found.

Case 4.—Elisha Lynch, aged 24 years, was admitted on the 27th January. Had had two attacks of intermittent fever. About Christmas previously noticed swelling of the ancles, which increased and reached the abdomen, with palpitation of the heart, occasional vomiting, and cough.

On admission, the anasarca was general—abdomen much distended—countenance pale—heart's action natural—mucous râle posteriorly in the lungs—urine abundantly albuminous—micturition—had had pain in the loins formerly—tenderness now over the right kidney. Supertartrate of potash with digitalis, 6tis horis. Purged and nauseated by the medicine without relief to the dropsical symptoms. Decoct. apocyni canab. a wineglassful 6tis horis.* This was con-

* Indian hemp, which grows plentifully in America, and is much used as evacuant by mouth and bowels, especially in dropsy

tinued for five weeks, the effect of which was four or five motions daily, without pain or griping, but without any diminution of the dropsical symptoms, or increase of urine. Bronchitis troublesome, with pain and dizziness in the head. Cupping, warm-bath, low diet. Complains of pain in the region of the left kidney. Mercury was now given till the gums were affected; but no relief followed. Then the oxymuriate of mercury with bark was given, which acted decidedly as a diuretic, and removed the dropsical effusions. In three weeks after this plan was adopted, he was discharged cured.

We doubt whether this case could properly come under the term *diseased* kidney. Does organic change of structure in that organ ever admit of cure? May there not be *disorded function* of the kidney, with albuminous urine, and dropsy, and yet no diseased structure of the kidney, or any other organ? We have little doubt that this last condition was that of Eliaha Lynch.

Case 5.—*Bright's Disease treated by Diuretics*—Nathan Beckwell, a man of colour, aged 28 years, came into Hospital 30th Jan. 1844. Had contracted rheumatism twelve months previously, which continued two months. During the past summer had head-aches, night-sweats, and emaciation—more recently had cough, dyspnœa, palpitation, and diarrhœa. Has now anasarca, irritability of bladder, and some effusion into the abdomen. Pulse 90, skin dry—urine slightly acid and five pints daily—deposits albumen copiously when tested—no pain in the region of the kidneys. Two drams of supertart. potass. and 15 drops of tinct. digitalis, thrice a day.

March 9.—Urine materially increased—sometimes to 12 pints in the 24 hours, attended with diminution of the dropsy—cessation of cough—no tenderness over the kidneys. The urine, however, is still albuminous, and began now to decrease in quantity. The diuretics were now discontinued, and a quarter of a grain of elaterium every four hours.

March 21.—The elaterium purged, griped, and vomited, it was therefore omitted. The decoct. apocyni also disagreed. The urine was now four pints in the 24 hours, but still albuminous. The legs were œdematous; but his general health was improved: and he requested to leave the hospital on the 19th April.

Unless albuminous urine and dropsy be unequivocal proofs of diseased kidneys, this case leaves us in doubt.

Case 6.—This patient was a Swede, aged 33 years, of good constitution, who entered the Hospital, 15th Nov. 1843. He had had chronic rheumatism in the hospital at Hamburg for six weeks, and was salivated there—he has now rheumatic pains in the shoulders and back—œdema of the lower extremities—tongue coated—pulse natural—bowels regular—tenderness of hypochondria—dyspnœa. Took hydriodate of potash, which relieved the pains a little—he then had purgatives.

Jan. 17.—Had been examined several times. The urine always coagulable—rather acid—and about two quarts in the day. Pain in the loins—pulse natural—skin moist—digestion good. He had been still using the pulv. jalap. comp. which now failed. Elaterium twice a day. This did not diminish the œdema, and was omitted on the 27th Jan., when the pulvis purgans, with tinct. digitalis, were substituted. Feb. 11. The urine very albuminous, and the other symptoms no better. Ordered an eighth of a grain of oxymuriate of mercury, with 3j. tinct. cinchonæ, ter die. This treatment was continued till the 11th of May, when he was last seen. His strength was decreasing—the urine highly albuminous, and below the natural specific gravity—some œdema of the ancles. In fact, he was in anything but a satisfactory condition, and the probability is that he has since died.

Two other cases of "Bright's disease" are recorded, but we can do little more than give a resumé of them.

Case 7.—A man of colour, aged 37, entered the Hospital 27th Dec. 1843. After severe rheumatism the legs became œdematous—pain in the loins—eight pints of urine daily, urine albuminous. He was treated by purgatives and elaterium, which diminished the œdema and the quantity of urine; but he thought himself weaker, and the albuminaria continued. 11th May. Little alteration, and he was now lost sight of.

The eighth case was one where there was hypertrophy of the heart, with dropsical effusions, and albuminous urine. He was treated with diuretics and purgatives, including elaterium. The case is not concluded.

In these cases the dropsical effusions were the most constant attendants on albuminaria. There were few evidences of inflammatory action going on, although the pulse was sometimes accelerated. The Reporter dwells much upon a "smoky appearance" in the urine as indicative of albumen. This phenomenon prevents the bottom of the pot from being clearly seen. The specific gravity was uniformly less than in health. The urine was alkaline in only one case. The causes of the disease could not be ascertained. Rheumatism not unfrequently preceded the attack; and only one patient confessed himself to be intemperate. In respect to treatment, Dr. S. candidly confesses that success was very indifferent. Dropsical swellings were occasionally reduced, but the albuminous state of the urine continued in all.

Dangers Incidental to Operations about the Rectum. By Dr. Watson, Surgeon to the New York Hospital.

Our New York contemporary for July last, contains a useful paper on the above subject by a practical hospital surgeon. In the course of the last few years Dr. W. has witnessed four fatal terminations of operations about the anus—one after excision of mucous membrane—and three after ligatures—none of them with hæmorrhage. We shall glance at some of these.

Case 1.—A seaman aged 32 years, admitted into the hospital 10th May, 1841, for prolapsus ani and some stricture of urethra. The general health was not good. A prolapsus took place after each evacuation, but was easily reduced in general, except when inflamed. The stricture soon gave way to the armed bougie, and afterwards the prolapsus was included in ligatures and cut away. The patient suffered a good deal and had strangury; but appeared to be doing well for a couple of days. On the fourth day, however, after a relaxed motion, great prostration of strength occurred, and he died the same evening. Secondary abscesses or purulent deposits were found in the lungs.

Case 2.—"On the 6th June, 1843, I was requested to see Mr. B. a merchant from Kentucky, about 30 years of age, who was suffering from extensive disease of the right elbow and fore arm, and a similar affection of his right ancle, which had occurred suddenly a few days previous, and appeared to be the indirect result of an operation which he had recently undergone for the removal of hæmorrhoidal tumours.

"Just before the operation, he had arrived here on business, and, with the exception of the hemorrhoids, in the enjoyment of tolerable health. For some time previous, however, he had suffered from a slight stricture in the urethra, which had affected his general system, and induced a deranged condition of his digestive organs; but of these symptoms he was not then complaining.

"On the 20th of May, the gentleman with whom I saw this patient in consultation, had applied a silk thread around the base of a small hemorrhois, which,

in a few days, sloughed, and left the patient comfortable. On the 29th, a second hemorrhois having appeared, and the patient having completely recovered from the effects of the first operation, a ligature was applied around the base of this little tumour also. On the 2d of June, the patient had a chill, followed by severe pain in the right ancle, and soon after, by redness and tumefaction about this part. In the course of the next twenty-four hours, the right elbow and arm as far as the shoulder were similarly attacked. Notwithstanding the most prompt and judicious treatment, the application of nitrate of silver, blistering, and free scarification, and the internal administration of tonics, stimulants, and anodynes, for allaying pain and supporting the patient's strength, these local affections rapidly progressed to suppuration.

"When I first saw the patient, the whole arm to the shoulder was enormously swollen, boggy, and injected with serous and purulent deposits. It had been deeply and freely scarified; and, from a puncture just below the elbow, pus and sloughy cellular tissue were issuing. The whole had been enveloped in a poultice. The ancle and foot were in the same condition, except that the integuments had not yet given way to the accumulated fluids beneath. The patient was apparently free from arterial excitement; his pulse 88, and of moderate volume; his skin of natural temperature; his tongue clean, moist, and of natural colour; his intellectual faculties somewhat subdued and heavy, but without delirium. He had no internal pain, with the exception of a dull, uneasy sensation under the short ribs, on the right side; and this he attributed to having lain on the part. He had no special uneasiness about the anus, no tympanitis, no difficulty in evacuating the bladder, although he had suffered slightly from strangury, and the accumulation of gas in the bowels, for a short time after the application of the ligature. He was on the use of nourishing diet, with porter and repeated doses of Dover's powder. To these I added a grain of quinine every four hours, and small doses of camphor emulsion every hour, and suggested the use of brandy in case the patient should have any symptoms of sudden collapse before the next visit.

June 8th, at 8 o'clock A.M.—The patient's face is bathed in perspiration; his features are sunken; his left hand is cold, clammy, and purplish; his pulse 130 and extremely feeble; his tongue dry, cracked on the surface, and red at the edges; his intellect is clear; he is free from pain; but he has a constant hiccup which has continued since last evening. He had been on the use of small and repeated doses of brandy all night. His condition was too critical to admit of any examination of the arm or ancle. His stimulants were continued; but he died about mid-day. No post-mortem examination could be obtained.

Case 3.—In May, 1842, Dr. Mott operated on a gentleman of middle-age and good health, for prolapsus ani. He suffered but little from the ligature; but on the second day he presented symptoms of collapse, and towards the close of the fourth day he sunk, with all the symptoms of typhus fever. No examination could be obtained.

The writer of this notice nearly lost his life by the excision of piles, which was followed by abscesses requiring twice the operation for fistula. Still we must not be deterred by some fatal results; but we should always bear in mind that they may and do occasionally happen. Every precaution, therefore, should be taken to get the general health of the patient into as good a state as possible before the operation.

Spirit of the British and American Periodicals.

STATISTICS AND CASES OF MIDWIFERY: FROM THE RECORDS OF THE PHILADELPHIA HOSPITAL, BLOCKLEY. By GEO. N. BURWELL, M. D. (From the American Journal of the Medical Sciences, April, 1844.)

THE cases of labour contained in this article occurred from October, 1835, to January, 1844, inclusive, a period of eight and a half years.

The duration of pregnancy given in these tables corresponds very well with that ordinarily given. The relation between the time of the last menstruation and the birth of the child is an interesting one. It was noted in 259 cases, as follows:—

In 1	case	menstruation occurred about 5½ months before delivery
4	cases	6
1	case	6½
9	cases	7
2	cases	7½
24	cases	8
24	cases	8½
138	cases	9
26	cases	9½
18	cases	10
11	cases	11 months and over.
1	case	at irregular intervals throughout gestation,

the appearance of the catamenia being preceded by violent neuralgic pains.

The points of interest in this table are 1st, the comparatively small number of cases where the intervening time has been less than 8 months; 18 in 259 cases, or in the proportion of 1 to 15; of these 18 cases, labour came on in 9 of them at 7 months. This large proportion taken in connexion with the results would seem to indicate a disposition of Nature to expel the child at the seventh month of utero-gestation. The question would arise also whether the presentation of the child had anything to do with this. The case at 5½ months was a woman who dated her pregnancy nine months before delivery, but who continued to menstruate regularly until this short period before accouchement—child healthy and weighed 6 pounds. In the cases at 6 months the children were all born alive, and had the average weight of nearly 6½ pounds. The second point of interest in this table is the large number of cases at eight and eight and half months. The natural duration of gestation being 9 months, it must follow that these were either premature or the catamenia must have appeared once after conception. The number of cases of labour where menstruation had not taken place for eleven months or longer previous to delivery, is sufficient to show that regularity of the catamenia is not always necessary to conception. There is one case in this number where the patient had not menstruated for eleven years previously.

Twin Pregnancies.—Of 588 labours there were 598 children.

Sex.—This was noted in 517 cases as follows: males 277; females, 240.

This gives a percentage of 53 per cent. males, and 47 per cent. females.
Dr. Churchill's tables give 59 . . . . . 41 " "
Registrar General's of England Report gives 51 per cent. males and 49 per cent. females.

Weight.—The average weight of 100 male children at full term was 7lb. ¾ oz. Of 100 female children it was 6lb. 8¼ oz.

Still-born Children.—Of the 598 children the large proportion of 54 were dead at birth, or lived only a few hours afterwards.

With respect to retention of the placenta, the dates were not sufficiently definite to render any inference regarding it positive.

Hæmorrhage.—Thirty cases of hæmorrhage—twice, before the delivery of the child—15 times before the delivery of the placenta, and after the birth of the child; and 13 times after the expulsion of the placenta.

Convulsions.—13 cases during progress of the labour; of these 4 were epileptic; 4 apoplectic; 1 a complication of hysteria with epilepsy; 1 partly cataleptic and partly epileptic.

MENINGITIS—HOMŒOPATHY.

A CASE of this kind was related by Mr. Adams lately before the Dublin Pathological Society. A young lady, aged 23 years, complained on Christmas-day of sickness and chilliness. Two days afterwards she complained of double vision. On the 28th, she was visited by an eminent Professor of Homœopathy, who undertook the case, as one of fever, which was going on well. Next day she had a convulsion, followed by delirium, &c. We need not notice the symptoms or the treatment. The former were unequivocal of dangerous inflammation in the brain—the latter worse than no treatment at all. The patient craved for fruit, whey, chicken-broth, &c., but these were not allowed, and the bowels were never opened till the day before she died. On dissection, the membranes were highly congested, and the pia mater quite red. Much bloody serum was found in the ventricles and in the spinal canal. The base of the brain was like scarlet cloth!

It has been said that the only charge against homœopathy is the loss of precious time in acute diseases. But we are justified in charging homœopathy with gross ignorance of pathology or the nature of disease. What man capable of interpreting the symptoms of a malady, could think of treating meningitis by tea-spoonfuls of water, without any efficient medicine of any description? The truth is, that the homœopathists are wholly incapable of recognising acute diseases; and they therefore treat them all as chronic, or rather as imaginary affections—that is, with low diet and no medicine!

PROTRACTED LACTATION.

WITH the exception of a case by Dr. Kennedy in this Journal, the following is one of the most remarkable we have met with of Galactirrhœa. It is related by Dr. Green in the September number of the New York Journal.

Mrs. T. V., aged 47 years, and the mother of four children, has had abundance of milk for 27 years past. There has been a period of exactly four years and a half between each birth, and the children were allowed to take the breast till they were running about at play. She had now been nine years a widow, and is obliged to have her breasts drawn daily, the secretion of milk is so copious. The distance between the periods of pregnancy is worth the consideration of our political economists, and illustrates the doctrine of Dr. Loudon on the subject of protracted lactation.

ON THE ISOLATED TUMOUR (OR TUBERCLE) OF THE UTERUS. By Dr. ROBERTS.

THE fleshy tumour of the uterus is, according to our author, more frequent than is generally supposed, and is often the cause of complaints that go under other names, as proplasus uteri, menorrhagia, hysteralgia, leucorrhœa, dysme-

norrhœa, &c. These are often effects of the tumour, which is more frequently seated in the posterior walls of the organ than in any other part. The following cases are illustrative of the subject.

"*Case* 1.—Mrs. Easter, widow, aged 43, mother of six children. Began to have pain in the womb within the last two years. Her principal complaint of pain is in the abdomen, low down in the groin, crossing the belly and settling in the hypogastric region, attended with bearing down and pressing, and a feeling that if something would come away she would be better. The pain is not constant. Sometimes it comes on in short and sudden paroxysms of great severity; sometimes lasts for hours, and sometimes for two or three days. Lying down relieves it; it is increased by lifting or straining, particularly at stool. Sometimes she is afraid to walk, owing to the bearing down in the lower part of the belly. Sitting down at all times causes pain in the left side. She has sundry dyspeptic symptoms. On examination, *per vag.*, a tumour as big as a hen's egg is felt to rise from or in the posterior wall of the cervix uteri, about half an inch above the lip of the os, having around it a distinct sulcus, by which it is circumscribed. It extends towards the left side of the patient; is elastic, rounded, and has a roughened feel on its surface, as if formed of flattened convolutions, divided by shallow sulci, but is not distinctly nodular. It is exquisitely tender, and the examination left a pain (which she describes as beating, hot, burning, dull, or numb) evidently neuralgic, to which much of the distress is doubtless owing, which lasted some time.* In all other respects the uterus appears healthy; it is rather low, and the neck is tilted forwards towards the pubis. Such was the history of the case some months ago. The symptoms still continue, but I have made no recent examination, nor has any treatment been submitted to.

"*Case* 2.—Mrs. Derest, aged 24. Seen July 28, 1837. Enjoyed good health previous to her marriage, four years ago, and never since. Had two miscarriages: no living children. Has been suffering much for some months. Pulse one hundred, and tense; bowels costive, urine stringy and passed with pain. The inguinal and hypogastric regions are very painful on pressure, but no tumour can be felt from without. There is a good deal of pain in the back, a sensation of bearing down, and of something obstructing the rectum and the evacuation of fæces, and occasional paroxysms of dreadful pain, lasting for hours. On examination, the uterus was found prolapsed, its os and cervix quite healthy. On passing the finger behind the cervix, and upwards towards the left side (that which is the most painful), a hard, knobbed enlargement is to be perceived; and, *per anum*, a large tumour can be felt, occupying the hollow of the sacrum, and pressing towards each other the walls of the rectum. The body of the uterus seems enlarged. The examination was followed by severe pain, which lasted several hours. The woman was a patient of Dr. Jas. B. Kissam's. Of the subsequent events of the case, I know nothing, except that she took iodine, and I heard lately that she was still living, and in better health. Since the above was written, I found the following memoranda relating to the patient among my papers. Nov. 26, 1840.—After taking 3 oz. Sol. Iod., considered herself well for a period of two and a half years. The symptoms (the same as before) are again as bad as ever. The extreme tenderness of the posterior lip of the uterus renders the examination of the tumour difficult, but it is certainly smaller than formerly. The anterior lower portion of the body of the uterus is enlarged, irregular, in parts harder than in others, and exquisitely tender to the touch; towards its left side it is pretty distinctly circumscribed as a tumour, but accuracy

* "The connection between hysteralgia and fibrous tumours of the uterus, has been ably pointed out by Ingleby (Lect., p. 204). He has known of four cases thus caused. In a case of small hard tumour of the upper part of the cervix, extreme tenderness of the vagina was a marked symptom."

of examination is forbidden by the pain which is caused by the touch. Jan. 1, 1841.—Much relief from the use of Iod. Hydrarg. August, 1844.—No examination since.—Health perfectly good.

"*Case* 3.—H. Green, light mulatto, aged 28 years: seen 9th July, 1837, Married 12 years: two children by her first husband, none by her second—none for several years past. Is stout and active, menstruates regularly but scantily, urinates freely as to quantity, but has occasionally extreme pain at the end of the urethra, after the evacution, causing her to shed tears even. Has also pain in the loins. The belly is not tender, and no tumour can be felt in it. The cervix uteri is hard and stiff, and is, as it were, tilted up towards the opposite side from the tumour. The outer surfaces of the lips of the os are rough, hard, and irregular; and the os itself has the shape of an *S*. (The speculum was not used.) The finger, *in ano*, encounters a large tumour springing from the posterior surface of the uterus, just above the cervix, which is hard and irregular, but does not block up the rectum as much as in the preceding case. There are some circumstances connected with this case which are highly interesting, in the history of the disease. The tumour *disappeared* very rapidly under the use of iodine, not a vestige of it being left, and for some years I considered the cure as complete. About a year ago I obtained permission to examine the uterus, and was much pained to find that a tumour of some size occupied the site of the former one; in other words, *that it was growing again*. As no complaint was made at the time, I said nothing about it; but on the 12th of March last, was again consulted, for a return of the old symptoms. A very considerable tumour now occupies the posterior surface of the uterus, reaching towards the sacrum, having a flattened feel, its lower edge rather sharp, tolerably smooth, and rather painful. The function of the uterus is not impaired. Further, to increase the probability that these tumours belong to the fibrous variety, a very distinct one is to be felt in the right groin, tender, nearly as large as an egg, and apparently attached to the organ. This latter tumour is much less painful to the touch since leeches were applied over it. *The disappearance and subsequent return of the disease* are further exemplified in case 4th.

"*Case* 4.—Mary Stevens, coloured, aged about 30, married 12 years, and mother of two children, consulted me for pain in utero, prolapsus, and scantiness of the catamenia, Sept. 1837. The lower portion of the posterior wall of the uterus was then swollen and tender. In October, there existed a tumour of considerable size, which, on the 28th November, was recognised by my friend, Dr. G. W. Hodgson, now of White Plains. *Per rectum*, it could be felt to consist of two rounded portions, as large as walnuts, divided by a central sulcus, and very tender. Under the use of iodine, they became smaller, softer, and more circumscribed, and could be pushed up with the uterus into the abdomen. She complained of pain, weight, and leucorrhœa. On the 1st of May, 1838, the tumour was as large as a walnut, softer, and smooth. During the next six months, it rapidly increased in size, being nearly as large as a small orange. On the 28th March, 1839, she called, stating herself to be some months advanced in pregnancy, and, to my surprise, *I could not discover the tumour*.* She was delivered easily, in due time, of a living child. Some months afterwards, on examining her again, I felt the tumour, elastic, as large as a walnut, of circular shape, very tender on pressure, and occupying its original site. There was a great degree of prolapsus; about this time she was examined by Doctor (now Professor) Gilman. The tumour increased, and is now of considerable size, and causing a good deal of uneasiness, but of late has not appeared to enlarge. A year ago, when a patient of the Northern Dispensary, for dysmenorrhœa, which appeared

* "A case of spontaneous disappearance of two large fibrous tumours is to be found in the first vol. of 'Clark on the Diseases of Females,' 1814, 1st ed., p. 250.

to subside under the use of the bougie, she was several times examined by my able and zealous colleague, Dr. James Crane, Jun.

"The symptoms which *may* arise from the disease now under consideration, are further illustrated by the following:

Case 5.—"Mrs. Sands, mulatto, aged 20, small and delicate; had been married six weeks. On 19th December, 1839, was exposed to cold; on the 20th, menstruated, as she had always done, with pain, which continued severe until the evening of the 23d, when it abated under the use of anodynes. On the 25th the pain recurred, and she vomited up everything she took. On the next day, general peritonitis existed in a well-marked form, and yielded to the usual treatment. The digestive organs continued to be disordered for some time afterwards, and occasional attacks of pain and tenesmus occurred. On the 13th January she began to complain of a return of the old pain, recurring at frequent intervals, at times distressingly severe. On these occasions she walked about her room, bent double, and almost delirious with agony. I now made a vaginal examination. The uterus was very much prolapsed, the neck tilted forwards, thick and firm, and the os gaping. A large round tumour, springing from the posterior wall just above the cervix, as large as a small orange, of uniform smoothness, hard, and very painful on pressure, occupies the vagina and encroaches considerably upon the rectum. The examination caused pain. The pubic region was tender. She had no particular difficulty in urinating, or in defæcation, but had long been annoyed by an inclination to expel something from the rectum; otherwise, previous to her marriage, she had had good health. Every evening, from the date of the examination, until the 28th, she was attacked about 5, P. M., with excruciating pain in the abdomen, beginning in the groins, during which she tossed about in bed in all directions, imploring the administration of her anodyne (McMunn's El. Op.), which invariably speedily relieved. The tumour soon disappeared under the use of iodine, but what has been her condition since I have had no opportunity of determining.

Case 6.—"Mrs. Rankins, *æt.* 30, married 5 years: mother of two children, visited Mar. 4, 1840. Her husband had been absent for thirteen months; immediately on his return, she was attacked with excessive pain in the uterus (having previously enjoyed good health), followed by symptoms of peritoneal inflammation, requiring depletion and anodynes. On the subsidence of the more serious symptoms, she lay in a languid, suffering and highly nervous state, until the first July, when on a vaginal examination the uterus was found prolapsed, and a tumour was detected, circumscribed and as large as a lady apple, on the posterior wall of the uterus, and toward its right side. It had the usual elastic feel, and was very painful on pressure, appeared as if lobulated externally, and was very distinct per rectum."

Case 7.—"Mrs. Johnson, aged 36, mother of one child, applied to me about one year ago, for certain uneasy sensations about the back, hypogastrium, &c., which led to the discovery of an enlargement in the posterior part of the uterus, of some size, but the particulars of which I cannot recall to my memory. Subsequently she disclosed a large fluctuating tumour upon the right loin, which, on being opened, contained a thin purulent fluid derived from carious bone beneath. The fistula still discharges, and I regret to add, that a similar tumour, as large as my two fists, now exists in the left groin and is rapidly enlarging. Notwithstanding, her general health is good. The tumour of the uterus, examined this day, Aug. 3, has lost much of its original circumscribed character, and feels more like a general enlargement of the posterior surface of the organ, increasing in thickness as it ascends, hard, not very irregular, and excessively tender, so as to render the examination difficult. It arises from about half an inch above the os, the portion of neck which is sound not being tender; the uterus is low, its anterior surface healthy. It does not interfere with defæcation; menstruation is easy and regular, but scanty; leucorrhœa habitual, and coitus so

painful as to be allowed only with the greatest reluctance. The examination, as well as it, lead to aching pain, afterward, from hip to hip and through the body. There is pain in the back and belly, and the least jar in walking causes her to scream out. Some of this may be due, however, to the caries which exists in the pelvic bones. She has taken a good deal of iodine at irregular intervals, to which, perhaps, the change in the tumour may be owing. Several more cases have come under my observation in private practice; two or three such were seen by myself and Dr. Crane in the Northern Dispensary, and the latter also saw a case in private practice. Prof. Gilman has also met with and treated such a one, successfully. As I am not writing a history, but a sketch only of the affection, I shall leave the symptoms to be inferred from the cases which I have now related, remarking only that they present nothing pathognomonic, but are the common expression of several uterine affections. That each may exist separately and from other causes, I well know, but I leave it to the profession to decide, how far, when they coincide, they are to be considered as in the relation of cause and effect, and how far the removal of the tumour demands our special attention. The neuralgic character of the pain with which they are apt to be associated, merits a passing notice, not less than their frequency, the uncertainty of their nature, their tendency to remain stationary, to grow slowly, or rapidly, to disappear and spontaneously to return, *their peculiar predilection for the posterior wall of the uterus*, their innocuousness to life, and their insidious development, until revealed under the influences of some stimulus, of which matrimony and the renewal of coitus are conspicuous. Of the causes of the disease I know nothing; for the prognosis, I refer to the quotation from Lisfranc, and leave the diagnosis to the tact and judgment of the reader. A very few words respecting the treatment.

"The only remedy for these tumours on which any reliance can, in the present state of our knowledge, be placed, is iodine."

ON THE EXTRACTION OF THE RETAINED PLACENTA IN ABORTION. By HENRY BOND, M. D. (From the American Journal of the Medical Sciences, April.)

ALL authors are agreed that, in cases of abortion, the hæmorrhage is kept up by the presence of the placenta, and that, as soon as this is removed, the hæmorrhage always ceases—they do not suppose that the placenta is retained by any firm adhesion, but for the want of some means to reach it with safety, and get a secure hold of it. When the placenta projects into the vagina, the introduction of one or two fingers will suffice to extract it. But in the most troublesome and dangerous cases, where the placenta is inclosed within the body of the uterus, and its neck is contracted, the finger can do nothing. Dr. Bond here enumerates a variety of instruments invented by different accoucheurs for the removal of the placenta, in such cases, and after pointing out the objections to each, he suggests one of his own invention to which he gives the name of *placental forceps*. This instrument is about 10 inches long, curved laterally on a radius of about 12 inches, and the blades about 1¼ inch longer than the handles. The blades terminate in an oval expansion nearly half an inch wide. The handles and blades, including the edges of the oval expansion, are rounded and bevelled off, so as to preclude all possibility of injuring the surrounding soft parts. The inner part of the oval expansion is made concave and rough, so as to maintain a severe grip on the body embraced. The outside of the oval part of the blades is made slightly concave and smooth, without a fenestra, so that, in passing them through the os uteri, and expanding them so as to embrace the placenta, there shall be the least danger of injuring the part.

On Perityphlitis, or Inflammation of the Cellular Tissue adjacent to the Cæcum. By Wm. Seller, M.D. &c. (Abridged from the Northern Journal of Medicine, July, 1844.)

This disease, which is characterised by inflammatory turgescence adjacent to the cæcum, has its seat external to the peritoneum, in textures of a cellular structure, and, unless neglected at first, is more prone to resolution than to the formation of pus; when suppuration does occur, the pus is almost invariably evacuated by the rectum. Tenderness on pressure, hardness, dulness on percussion, and circumscribed swelling of the abdomen, adjacent to the anterior part of the crest of the right ilium, while the integuments move freely over the tumour, are the prominent and least variable symptoms of this disease. The part so affected varies considerably in extent. When the swelling reaches across the abdomen towards the linea alba, or upwards obliquely towards the umbilicus, the disease should be suspected of having passed into an inflammation of the peritoneum, or even perhaps of the coats of the bowels. Pain of the upper part of the thigh in front, increased on motion, is either not a constant symptom, or is so trivial in the majority of cases, as to have escaped notice. The functions of the bowels are in general more or less affected. Nausea, vomiting, and anorexia are sometimes among the symptoms, but by no means essential to the disease. Symptomatic fever is not in general well-developed: in simple cases the pulse is almost natural; in the severer, it is sharp, hard, or jarring, not often small or oppressed. The disease is apt to come on insidiously; the colic pains, which usually usher it in, may last only for a few hours, or may recur at intervals for several weeks before the swelling appears. The disease is of uncertain duration. When the precursory period is short, when it is itself uncomplicated, and the treatment appropriate, a cure may be expected in ten or twelve days—a degree of induration, however, generally remains. There exists sometimes a disposition to recurrence. The unfavourable terminations of this disease are suppuration and extension of the inflammation to the peritoneal lining of the abdomen, and even to the coats of the intestines. Resolution is the more common result. Even when it terminates by suppuration, as in the case of abscess of the pelvis after parturition, it is for the most part unattended with serious consequences. To pelvic inflammation after parturition the disease in question bears considerable analogy. Yet active treatment in the early stage is more essential than in the pelvic inflammation—for the tendency to suppuration seems to be proportioned to the neglect of free evacuations of blood. It seems certain that the pus formed in perityphlitic inflammation, sometimes, though rarely, penetrates through the abdominal wall. Such an occurrence, however, is extremely rare.

Dupuytren mentions the case of a young man who had been treated at the Orleans Hospital for a phlegmonous tumour in the right iliac region, which he at first neglected. He passed blood by stool, and his health was partially restored. He then went to Paris, where his complaint increased, the swelling enlarged, and abscesses opened in the right iliac region of a fistulous nature, through which pus and feculent matters were discharged. After a tedious illness of several months, accompanied with cough, diarrhœa, emaciation, &c. he recovered.

In the cases which proved fatal, no evacuation of pus either by the rectum or by an external opening for the most part takes place; but a copious deposit of pus is found on dissection almost uniformly, as far as the reported cases show, along with marks of extension of the inflammation to the peritoneum. Albers and others relate several cases of this disease, and record the several less favourable terminations of it to be: 1, Suppuration with discharge of pus by stool—2, Suppuration with discharge by an external aperture; and 3, Suppuration with superadded peritonitis. Dr. Seller relates a case which well illustrates the insidious mode in which this inflammation makes its attack. The patient was a

medical man about 40. Towards the end of July, 1840, being apparently in perfect health, he awoke in the middle of the night with severe griping pain, which continued for two or three hours, and then passed off with a slight evacuation of the bowels. On getting up, he felt nothing but a sense of weariness, and of weight and slight tenderness in the abdomen, as if the parietes did not sufficiently support the bowels—he went on for two days without any perceptible aggravation. On the evening of the third day, he noticed a slight pain in the fore-part of the right thigh, which he found to commence in the right iliac region. Next morning considerable pain on pressure in that part—a hard circumscribed swelling, with a dull sound on percussion—bowels free. Constitutional symptoms not well marked, pulse rather frequent, and harsh. Twenty leeches to the swelling with relief—venesection in the evening to 16 ounces. At night a calomel and opium pill. Next day symptoms abated. Venesection and leeches again. Two days after, more leeches, in consequence of some stinging pains in the part. After ten days from the commencement the patient walked out perfectly recovered.

The pathological seat of this affection seems to be in the cellular tissue between the fasciæ of the iliacus internus and coats of the cæcum. This explains why the pus, when produced, so uniformly passes into the cæcum. The iliac fascia, though somewhat variable in character, is for the most part a strong fibrous membrane. Its extent and connexions form, so long as it is free from disease, an impenetrable barrier to the progress of pus outwards. And when we remember that about one-third part of the circumference of the cæcum is uncovered by peritoneum, and that the uncovered part is in contact with loose cellular tissue interposed between the iliac fascia and itself, we shall no longer feel any difficulties in understanding the chief peculiarities of peri-cæcal inflammation. The pus is confined on every side by the close adherence of the peritoneum to the cavity which it lines. The alternative is, on the one hand, that pus so confined, almost in a sac, should penetrate through the posterior wall of the cæcum, which is but making its way through a thin partition to a mucous cavity; or, on the other, that it should penetrate through the substance of the iliac fascia, or ascend into the right meso-colon by separating its laminæ, or detaching the peritoneum from the iliac fascia, where it adheres close to it, should make its way into the pelvis. Cases may be instanced in which each of the consequences under the latter alternative has occurred, yet very rarely by comparison, and not probably till the inflammation unchecked had extended beyond its original seat, and destroyed the substance of the fascia, or weakened the cohesion between the laminæ of the mesocolon, or that between the peritoneum and the subjacent substance.

OVARIAN TUMOUR.

IN the Montreal Medical Gazette (April, 1844), is related a case of ovarial tumour bursting into the bowels with ultimate recovery.

A married female, aged 27 years, was delivered of a child in May, 1842. On the 22d November following, Dr. Fraser was sent for, and found her labouring under severe pain in the right iliac and lumbar region, shooting down to the thigh, with dysury. The pain abated; but soon returned. There was fulness in the right iliac fossa, with tenderness to the touch, and febrile symptoms. Leeching and purging rendered the fulness less conspicuous. On the 10th Dec. there was a severe attack of pain, and half-way between the pubis and umbilicus was discovered a well defined tumour, the size of a turkey's egg. There was no swelling or hardness in the original site of pain, and the present tumour was capable of being moved about, even beyond the mesian line. In four days it became the size of a cocoa-nut, with great pain and sense of distention. On the 14th Dec. an exploratory needle was introduced, and three ounces of a straw-

coloured fluid evacuated, forming, when cold, a white jelly, when treated with nitric acid. The feeling of distention was relieved for some days, when it returned, and continued for six weeks, with varying paroxysms. The general health had now suffered much, and she became affected with dry cough. The tumour progressed in size, and on the 10th of January, 1844, it occupied a large space, pressing so much on the vagina, that no satisfactory examination could be made. On the 25th Jan. premature labour came on, and she was delivered of a fœtus about four months old. The pain still continued as severe as ever. Feb. 9th, a consultation was called; but the tumour, in the mean time, had burst into the bowels, from which a large quantity of dark, red, and fetid matter was discharged, the discharge continuing for three or four weeks, gradually decreasing, and at length entirely ceasing. The remains of the contracted sac are still to be felt in the lower part of the abdomen. The general health has improved: but the sequel is far from certain. We have some doubts about the precise nature of the disease.

ANTIMONY IN INFANTS. (Provincial Journal, July 1, 1844.)

MR. WILTON (Surgeon to the Gloucester Infirmary) has drawn the attention of the profession to the serious effects which sometimes result from the exhibition of antimony in infantile diseases. The first case related was that of a child about a year old, to whom the mother had given small doses of antimonial wine for a cold and affection of the chest. Mr. W. found the patient suffering from slight convulsions—pallid sunken countenance—vomiting and diarrhœa. The means employed failed, and the child died. On dissection, the internal and external parts were pale and exsangueous—no vascular patches in the alimentary canal—the brain very soft; but no organic changes anywhere to account for the sudden collapse and death.

A few days afterwards, Mr. W. was summoned to another child, exhibiting similar symptoms, after taking antimonial wine. This child was saved. Some other cases are narrated, of which we shall notice the following. A child, about four years of age, became affected by cold, cough, and febrile symptoms. Saline draughts with antimonial wine were given by the medical attendant. Sickness and diarrhœa followed, with sudden prostration, which ended in death despite of cordials and stimulants. On dissection, the surface of the body was pallid, and on being moved, a large quantity of colourless fluid flowed from the mouth. The whole body was exsangueous, but no marks of inflammation were anywhere visible.

We have often seen distressing symptoms follow antimony in children, and, except in urgent or croupy cases, we generally prefer ipecacuan, which, if it sickens at all, soon clears itself out of the stomach without injury. Mr. Noble, of Manchester, has also published some precautionary remarks in the same Journal on antimony in children, which are worthy the perusal of all junior practitioners.

EUPATORIUM PERFOLIATUM IN EPIDEMIC INFLUENZA. By J. F. PEBBLES, M.D., Petersburg. (American Journal of the Medical Sciences, April, 1844.)

To this herb the domestic name of Boneset was given, from its prompt manner of relieving pains in the limbs and general muscular system, which attended a peculiar form of febrile disease which prevailed many years ago in the northern parts of this country (America). This fact led to the suggestion of its employ-

ment in epidemic influenza. It was found that the pain in the back and limbs, and the lassitude of the general muscular system, subsided as soon as the system was placed under its influence. Besides this prompt action on the nervous system, the eupatorium perfoliatum united in its operation other qualities, each one eminently adapted to fulfil some important indication in the treatment of the influenza. Among the first of these may be mentioned its diaphoretic powers. In this disease the skin was not unfrequently imbued with perspiration; the perspiration, however, was of a morbid character, resulting apparently from a lax condition of the skin, which under such circumstances was always pale and morbidly sensitive. Antimonials were ineffectual in removing this state—the opium in the pulvis Doveri checked the other secretions, and was therefore objectionable. Entirely exempt from this objection, the Eupatorium not only induced a healthy and free perspiration, but quickly restored the skin to its natural and healthy state, rendering its texture firm and healthy. Under its use also the disposition to cough subsided, and there was an immediate melioration of all the pulmonary symptoms. It also proved to be a prompt and efficacious *expectorant*. It was also found to possess tonic properties peculiarly suited to the treatment of certain cases of epidemic influenza in aged persons.

Manner of Administration.—Where it was determined to treat the disease with the herb alone, the patient after being covered in bed was made to swallow a wine-glass of the infusion, prepared by infusing one ounce of the dried leaves in a pint of boiling water, warm, every half-hour. After the fourth or fifth dose considerable nausea, sometimes vomiting, with free diaphoresis ensued, and there was an immediate melioration of all the symptoms. Expectoration, also, was produced. After this, relief ensued, and the patient felt very comfortable. The infusion was now given only every third or fourth hour in the same dose. The bowels were generally opened in about six hours after the commencement of the treatment, and remained in a lax condition.

OVARIOTOMY. Dr. CHURCHILL.

OVARIOTOMY is, just now, a formidable rival for fame, with Mesmerism or Hydropathy. The two former, indeed, ought to go hand-in-hand; for as ovarian tumours seldom grow in any but the patrons and recipients of animal magnetism, it would be a great advantage to those who come under the scalpel, to have its pains and penalties annihilated by the passes of an adroit mesmerist. Be this as it may, the ovarian operation can be tested only by time and statistics—the advocates and opponents steering such opposite courses, and using such ingenious arguments, as to puzzle the practitioner. Statistics will settle the question. Dr. Montgomery has gone into considerable detail on this point, and collected from various points of the compass a mass of materials that may greatly assist our prognosis—perhaps even our diagnosis, in these dangerous cases.

Dr. M. properly remarks that, under the head of ovarian dropsy, are comprehended many swellings very different from dropsy. There may be a single—or many cysts—and the contents of the cysts may and do vary from clear serum to an almost wholly solid substance. The ovaries may consist of malignant deposits—and last, not least, they may be detached, or they may have acquired extensive adhesions to various adjacent parts, rendering a successful operation all but impossible.

Mr. Southam has published the result of 20 cases of paracentesis—ten from Bright—five from Barlow—and five of his own. Out of these, 14 died within nine months after the first operation. Of the remaining six, two died in eighteen months—and four lived for several years, from four to nine.

Of eleven cases of ovarian dropsy admitted into Guy's Hospital, seven were tapped, three of which were unsuccessful. The proposal of injecting stimulating fluids into the emptied sacs, has, we believe, either never been tried, or entirely abandoned.

The following three tables will exhibit a coup d'œil of the results of almost all the cases on record. It has been constructed with great care and labour by the able and indefatigable author.

TABLE I.—*Cases of Extirpation of the Ovary.*

No. and Date.	Operator.	Age	Incision.	Result.	Character of Disease.	Adhesions.
1	L'Aumonier.	..	4 inches.	Recovered.	Abscess of ovary.	
2—1809	Dr. M'Dowal.	..	9 do.	do.	Gelatinous matter.	
3—1816	do.	..	Long	do.	Scirrhous ovary.	
4	do.	..	.. ..	do.		
5	do.	..	.. ..	do.		
6	do.	..	.. ..	Died.		
7—1821	Dr. N. Smith.	33	3 inches.	Recovered.	Cyst, fluid.	Adhesions.
8—1825	Mr. Lizars.	36	Long.	do.		
9—1825	do.	35	do.	Died.	.. ..	Adherent.
10	Dr. A. G. Smith.	30	do.	Recovered.	Cyst, fluid.	
11	Dr. Quittenbaum.	..	About 4 in.	do.		
12—1829	Mr. D. Rogers.	..	About 3 in.	do.	Solid and fluid.	Adhesions.
13	Dr. Granville.	..	.. ..	Died.		
14	Dr. Chrysmer.	47	Long.	do.	Cart. and lardaceous matter.	Adherent.
15	do.	38	do.	Recovered.	Honey-like and green sanies.	do.
16	do.	..	do.	Died.		
17	Dr. Ritter.	31	do.	Recovered.	Cyst, fluid.	
18—1836	Mr. King.	57	Short.	do.	do.	
19—1833	Mr. Jeaffreson.	..	do.	do.	do.	
20	M. Dolhoff.	23	Long.	Died.	Cyst and fluid.	Adhesions.
21—1836	Mr. West.	..	Short.	Recovered.	do.	
22	do.	..	do.	do.	do.	
23	do.	24	do.	Died.	do.	
24	do.	..	do.	Not cured.	do.	
25	Mr. Hargraves.	40	do.	do.	Multiloc. cysts.	Adhesions.
26	Dr. Clay.	46	27 inches.	Recovered.	Cysts, sol. and fluid.	do.
27	.. ..	67	14 do.	do.	do.	Ext. adh.
28	.. ..	30	28 do.	do.	do.	do.
29	....	40	14 do.	Died.	do.	do.
30	.. ..	22	14 do.	Recovered.	do.	Adhesions.
31	.. ..	40	14 do.	Died.	do.	None.
32	.. ..	43	14 do.	Recovered.	do.	Ext. adh.
33	.. ..	59	16 do.	Died.	do.	do.
34	.. ..	46	16 do.	Recovered.	do.	do.
35—1840	Mr. B. Philips.	..	2 inches.	Died.		
36—1841	Dr. Stilling.	..	6 do.	do.		
37—1842	Mr. Waine.	58	Long.	Recovered.	do.	None.
38—1843	do.	57	do.	do.	do.	do.
39	do.	21	do.	Died.		
40—1843	do.	20	do.	Recovered.	do.	do.
41—1843	Mr. Morris.	..	do.	do.		
42—1843	Mr. Southam.	..	do.	do.	Cystic sarcoma.	do.
43—1843	Dr. F. Bird.	..	3 or 4 in.	do.	Cyst and fluid.	do.
44—1844	do.	..	do.	do.	Cysts and solid matter	do.
45	Mr. Atlee.	..	3 inches.	do.	.. ..	Adhesions.
46	Mr. Lane.	..	Long.	do.	Cysts, fluid.	None.
47	Mr. Key.	19	do.	Died.	do.	do.
48	Mr. Greenhow.	39	do.	do.	.. ..	do.
49	Mr. B. Cooper.	39	do.	do.		

TABLE II.—*Cases of Ovarian Disease, in which the Operation could not be completed.*

Date.	Operator.	Cause of failure.	Result.	Incision.
50	Dr. M'Dowal.	Adhesions to bladder and uterus.	Recovered.	Long.
51	Mr. Lizars.	Solid and very vascular tumour.	do.	do.
52—1826	Dr. Granville.	Firm Adhesions.	do.	6 inches.
53	Dr. Dieffenbach.	Vascularity.	do.	Long.
54—1826	Dr. Martini.	Solid and fixed tumour.	Died.	do.
55	Anonymous.	Fixed tumour.	do.	
56	M. Dolhoff.	do.	do.	About 6 in.
57	Dr. Clay.	Exten. adhesions.	do.	Long.
58	Mr. Walne.	do.	Recovered.	5 inches.

TABLE III.—*Cases in which the Operation failed from an Error in Diagnosis.*

Date.	Operator.	Result.	Disease.
59—1823	Mr. Lizars.	Recovered.	No tumour found.
60—1834	Mr. King.	do.	do.
61	M. Dolhoff.	do.	do.
62	Dr. Clay.	Died.	Uterine tumour.
63	do.	Recovered.	Hydatid.
64	do.	Died.	Pelvic tumour.
65	do.	do.	Uterine tumour.
66	Mr. Heath.	do.	do.

Thus, the entire number amounts to 66, of which 42 recovered and 24 died—or about 1 in 2¼. Of the 49 cases in which the ovary was extirpated, 16 died, or 1 in 3. Of the nine cases in which the operation could not be completed, four died—or 1 in 2¼; and of the eight cases where the operation was unnecessary, 4 died, or 1 in 2.

Age does not appear to have had much influence, beneficial or otherwise, and the same may be said of marriage. Adhesions render the result of the operation much more dangerous than freedom from the same, and yet not so much so as one would, *a priori*, expect. Where other organic diseases co-existed with ovarian, the termination was almost always fatal. It is strange that the operation should have been ever performed, where no tumour has existed; yet the mistake has been made by eminent surgeons, and without any negligence on their parts.

Dr. Montgomery mentions a case where he felt a distinct tumour in a female's abdomen, which suddenly vanished in the very act of examination! The abdominal muscles, in fact, often act in such a way as to imitate organic enlargements of the liver, spleen, ovaries, &c., and thus deceive even the most careful practitioners. After many judicious remarks, cautions, and comparisons, our author comes to the following conclusions:—

"Even after the details I have given, it is very difficult to come to a definite

and perfectly satisfactory conclusion, because, 1, we have not sufficiently accurate data to estimate the progress of the disease unaided by surgery. 2. The table quoted from Mr. Southam is clearly too limited to afford a fair average of the results of tapping, and it is not easy to obtain sufficient facts to enlarge it. 3. The cases in which ovariotomy has been performed are of such a mixed character, that it is impossible to select with fairness those cases in which the operation was demanded for the relief of urgent suffering, and suitable to the nature of the disease, without the appearance of partiality. And 4, from the obscurity of the diagnosis, it is too much, perhaps, to expect that our practice in future will be free from those drawbacks on the operation.

"But bearing in mind these difficulties, and making allowance for those drawbacks, I think we may conclude that there are cases in which the operation would be justifiable; and on these grounds,—we find the general opinion is against the curability of the disease by medical means;—that after a time the patient will die from local disease or accident, or constitutional disturbance, and that meantime she suffers more or less inconvenience;—that tapping in almost all cases affords but temporary relief;—and that, as far as the limited statistics we have adduced are admissible as evidence, it is attended with great danger: i. e. 1 in 5 died of the first operation, and of twenty patients, fourteen (more than two-thirds) died within nine months of the first tapping; whilst of the entire number of those who underwent the operation of ovariotomy, about one-half have absolutely recovered so far."

The foregoing paper is very creditable to the industry, the talents, and the judgment of its author.—*Dublin Journal, July*, 1844.

EMPYEMA—PERFORATION OF LUNG, &c.

MR. HARRISON, of Reading, has related a case of this kind in our Provincial contemporary, of which we shall give an abstract.

Sarah Lukeman, aged 50, was admitted at the Reading Dispensary, July 3, 1843, after nine weeks' illness. Severe rigours had been followed by pain in left side, with fever, cough, and some expectoration. At present the left side contracted, and fixed in respiration, with universal dulness on percussion there. Respiration, anteriorly and latterly, distant and audible, with large crepitation in the scapular region. Loud vocal fremitus—puerile respiration in the opposite lung. Lies on the right side—cough frequent—expectoration profuse and purulent. *Diagnosis.*—Pleuro-pneumonia with effusion. Calomel and Dover's powder, with hydriodate of potash. She was admitted into hospital under Cowan, and remained there three weeks, without benefit, when she was discharged at her own request. She was re-admitted, under Dr. Harrison on the 31st July. The contraction of left side was still advancing—gurgling crepitation at apex of lung—expectoration profuse. The apex of right lung also was dull. Acetate of lead with opium every six hours; with good food and wine. Under this treatment she greatly improved.

Aug. 11. Yesterday felt as if something had given way in her chest, and she immediately expectorated a tea-cupful or more of nauseous purulent fluid. She is now much relieved, and the cough and expectoration, since yesterday, but trifling. The heart's pulsations are now more distinct at the apex of left lung, than in the ordinary place. For some days she was so well as to go down stairs, and even walk in the garden. On the evening of the 14th of August, she suddenly experienced a sense of suffocation, and brought up about half a pint of the nauseous matter. Frightful dyspnœa continued, with some mitigation, till her death, seventeen days afterwards. During that period, she daily expectorated a large quantity of the above-mentioned fluid.

Post-mortem.—On opening the chest, the right lung was seen projecting beyond the median line—the left was shrunk and hidden, and the cavity closed by adhesions of the pleura to the pericardium. When the cavity was opened, there was about a pint of thick purulent fluid in it. The lung was compressed to the vertebræ, and to the diaphragm. The costal pleura was lined by an adventitious substance, partially osseous, and presenting a worm-eaten appearance. On separating the osseous layer, several small pouches or cavities were disclosed—the extremities of enlarged bronchial tubes. The lung was of a dark gray colour, soft, and, at its apex, in a state of incipient gangrene. The bronchial tubes were enlarged, and the lung, through them, had received air throughout, till they were filled with purulent infiltration. There was an aperture of communication with the left bronchus. Right lung large, spongy, and free from congestion. No tubercles in either of the lungs. Heart small and feeble—pericardium and endocardium healthy.

These are the naked facts of the case, to which Mr. Harrison has appended numerous comments and quotations, for which we must refer to the Provincial Journal for June 26, 1844.

ON THE PULSE OF THE INSANE. By PLINY EARLE, M. D. (From the American Journal of the Medical Sciences, April, 1844.)

IT is but seldom that allusion is made to the state of the pulse in the writings of those who have treated of mental alienation. This arises from the generally admitted fact, that the state of the pulse is a less certain index of the true nature of the disease, of its mildness or intensity, than it is in other affections. To this general truth there are, however, many exceptions, of which the following is one: "whenever it (the pulse) exhibits very considerable changes, without any obvious causes or corresponding symptoms, sudden death frequently closes the scene." In phrenitis accompanied with delirium, the pulse is frequently contracted, small and apparently feeble. Under these circumstances it almost invariably becomes fuller and stronger after the abstraction of blood from the arm. Dr. Spurzheim barely alludes to this condition when speaking of the treatment of cases in which there is a hypersthenic state of the brain. In patients of a nervous temperament, where great irritability is present, the pulse may be not only unnaturally frequent but abnormally developed, full and hard. Yet were the physician to be influenced by this sign and to resort to venesection, he would in most cases only aggravate the disease. It has been observed, as a peculiarity worthy of attention, that the pulse differs in the radial and carotid arteries, and, when soft and weak in the former, is full and hard in the latter, though the number of pulsations in the minute be the same in both. In cases where this is observed, there is generally an abnormal determination of blood to the brain, with flushing of the face, preternatural heat of the head, and coldness of the extremities. The pulse in some maniacs is affected by the most trifling causes; in others it suffers little variation, however violent the attendant symptoms. With respect to the value of the pulse, as a guide in cases of insanity, Dr. Rush speaks as follows: "Should all the above marks fail of deciding the state of the mind as to sanity, recourse should be had to the state of the pulse. It is, with but few exceptions, more frequent in all grades of madness than in health." In "melancholy madness," says Van Swieten, "the pulse beats slower and the body feels colder." Esquirol, in reference to the same type of disease, says, "the pulse is ordinarily slow, feeble, concentrated; sometimes it is very hard, and a kind of fremissement of the artery is felt under the finger." The same author says, "among the insane, some are plethoric, others lymphatic, some strong, others feeble; in the former, the pulse is full, hard and developed, in the

latter, slow, soft and concentrated." From a variety of statements and experiments made and instituted by the writer of this Essay, corroborated also by those of others, he comes to the general conclusion, that the pulse of lunatics is more rapid than that of the sane. When, however, it is recollected that the circulation differs greatly in different persons, even in health, and that there is a vast diversity of influences, which in health or disease may determine the acceleration or diminution of its rapidity, but little value can be placed upon the pulse as a test in insanity.

Hydrocele.

Dr. Porter, of the Meath Hospital, Dublin, has published some Practical Commentaries on the various Operations for Hydrocele, and has tendered his own to the profession, through our Dublin contemporary for July last.

"This operation is partly that by incision, the only difference being, that instead of dividing the tunica vaginalis in the entire extent of the tumour, my incision extends only from an inch to an inch and a half in length: and partly that by the tent, an operation first proposed (it is said) by Franco, but revived and recommended by the celebrated Larrey. Having first punctured the tumour in order to examine the state of the parts, and satisfy myself that it is a case in which an attempt to cure the disease radically may be safely made, or at least in which such attempt would be justifiable, I allow the sac to fill again. When the disease has re-appeared, and the tunica vaginalis is as much distended as it previously had been, I perform the operation thus: Having that part of the scrotum in which I intend to operate, shaved, I make the incision of the length above mentioned, down to the tunica vaginalis, and examine carefully whether any vessel has been wounded that could possibly furnish a considerable quantity of blood. I then pass a bistoury into the tunica vaginalis at one extremity of the incision, out at the other, and divide it by a rapid withdrawal of the instrument. Having completed the incision, a tent of rolled lint, moistened with oil, and secured with a ligature, so as to be easily withdrawn, is introduced. The operation is then completed. The patient may be placed in bed. On the succeeding day I generally bleed from the arm to the extent of ten, twelve, or fourteen ounces, and particularly if the scrotum is red, and shows a tendency to inflammation. Latterly I have adopted this practice as a preventive in all cases with apparently the most satisfactory results. The tent is left to become loose, and drop out of itself, which usually takes place on the third or fourth day, and need not be replaced; but it is desirable to break up any adhesions that may be formed between the lips of the wound, and to introduce the finger occasionally into the cavity of the tunica vaginalis until the sixth, after which it may be treated with light superficial dressing, and the cure is generally perfect in about three weeks."

Dr. Porter has now practised this operation for fifteen years, and comparing it with others, has no reason to feel dissatisfied. It is scarcely more painful, he avers, than the ordinary puncture of the common trocar; and, if carefully performed, is free from the possible occurrence of any untoward accident. Future experience must determine whether the tendency to relapse is greater after this than after other operations which are termed radical.

Two Cases of Ichthyosis Intra-uterine. By J. Y. Simpson, M. D. F. R. S. E. &c. &c. (London and Edinburgh Monthly Journal of Medical Science, July, 1844.)

Case 1.—This case was communicated to Dr. Simpson of Edinburgh, by Professor

Vrolik of Amsterdam. The child was a male, and born in the eighth month—parents perfectly healthy. The skin of the infant, fissured in different parts, was hard and thickened generally: it was of a yellow colour, and covered with the epidermis; in the fissures it was softer, and somewhat of a bloody appearance. The head, which was almost round, presented very open sutures, and a very large anterior fontanelle. It was covered with thin, short, silky hair, and the scalp was intersected by numerous fissures, one of them running from the left superior eye-lid over the os frontis, being twelve millimetres in breadth. Another was confined to the right superior eye-lid, and here also there was a very large fissure at the external angle of the eye-lids, which ran in a direction backwards. The forehead was inclined backwards; the ears were quite concealed by the skin, and only to be seen in their outline very imperfectly; the eye-brows were entirely absent; instead of closed eye-lids, there were two bloody tumours formed by the interior lining membrane of the eye-lids, or by the ectropia of the conjunctiva, behind which the eye-balls were deeply concealed in the orbits; there were but few cilia on the eye-lids, and the extroversion of the conjunctiva was less in the under than in the upper eye-lids. Between the two very distant eyes there was some indication of a nose, which was very large and flattened, and indeed only shown to be such by the two nostrils. The mouth was largely opened, forming an ellipsis with the returned interior surface of the lips, and surrounding the alveolar parts of the two jaws and the tongue, which was much thickened; in the upper jaw the rudiments of the incisor teeth were very apparent: at each angle of the lips there were three cutaneous fissures; and in the same manner there was one on each side of the upper lip. Neck short and broad; breast and abdomen were almost of the same size, and very different from what they are under normal circumstances; the upper and lower extremities were so far natural, but the hands and feet were swollen, and covered with a fissured skin, and the fingers and toes resembled claws. The scrotum (containing no testes) and the penis were of a red colour, and appeared as if the chorion and epidermis were retracted from them; no perinæum was to be seen; the stretched skin did not allow of a depression behind the scrotum; the opening of the anus was placed on the same level with the nates; here as well as on the thighs, there were a great many fissures, which, by some difference in their appearance, showed that they had not all been formed at the same time. It was evident that some of these fissures were recent and unhealed; others were in the way of being cured; some were covered by a red cicatrix; and others were quite like the unfissured parts of the skin. Dr. Vrolik coincides in a great degree with Dr. Simpson regarding the etiology of this deformity, viz: that the cutaneous fissures are merely a secondary and a mechanical result, and that the integumentary parts not possessing a proper degree of expansibility, and not increasing with the increasing dimensions of the growing fœtus, at last split and fissured under the stretching from within to which they are subjected. To the same mechanical cause are to be referred the ectropia of the eyelids, the form of the mouth, of the nose, and of the ears. The only part in which his explanation differs from that of Professor Simpson is, that the general form of the child must depend upon an arrrest of development, and that both this and the degeneration of the integuments are the causes of this deformity. The other case of this disease occurred at Haddington, and bore an exact similitude to the one just described, except that in the Haddington case the disease was confined to the head and neck—in the latter case also the fissures were deeper and wider. In this case also the child was enormously large—it had been born at the full time. It appeared viable enough—it died, however, in a few days.

Observations on the Value of the Chemical Tests of Diabetic Urine. By W. T. Gairdner, Esq. Edinburgh. (London and Edinburgh Monthly Journal of Medical Science, July, 1844.)

Dr. Golding Bird has described in the Medical Gazette the most notable of the tests which have been proposed for diabetic urine.

1st. *Hunefield's test*, founded on the power of sugar to deoxidate chromic acids —this is considered fallacious.

2d. *Runge's test*, which consists in the development of a black colour by a drop of sulphuric acid.

3d. *Trommer's test*—to be described presently.

4th. *The fermentation test.*—Diabetic urine treated with yeast, and left for a few hours in a warm place, becomes troubled, and covered with a frothy scum; at the same time it disengages carbonic acid gas, which being collected and measured, indicates the quantity of sugar, one cubic inch corresponding nearly to a grain of sugar.

5th. *The microscopic test*, which depends on the development in urine impregnated with sugar, of minute ovoid particles, the spores of a confervoid or fungoid vegetation which attends on the vinous fermentation in all saccharine fluids.

The fermentation test is not liable to any obvious source of fallacy, and it is one of peculiar excellence in this respect, that it furnishes us with a very accurate and simple means of estimating the amount of the sugar, if necessary.

Runge's test is best performed in the following manner: the urine should be evaporated on a white plate over a vapour bath, or carefully with very gentle heat, as it is difficult to avoid charring, if the proportion of sugar be considerable. A drop of the acid, diluted with six parts of water, should next be applied; and then by moving the plate two or three times backwards and forwards over the flame of a spirit lamp, the black hue is brought out in a spot with clearly defined edges, if there be any sugar present.

Trommer's test is described as follows:—"Add to the suspected urine, contained in a large test-tube, a few drops of a solution of sulphate of copper; a very inconsiderable troubling generally results, probably from the deposition of a little phosphate of copper. Sufficient *liquor potassæ* should then be added to render the whole strongly alkaline: a grayish-green precipitate of hydrated oxide falls, which if sugar be present, wholly or partially re-dissolves in an excess of the solution of potash, forming a blue liquid, not unlike the blue ammoniuret of copper. On gently heating the mixture nearly to ebullition, the copper falls in the state of suboxide, forming a red and copious precipitate. *If sugar is not present, the copper is deposited in the form of black oxide.*"—(*See Dr. Bird's paper.*)

Mr. Gairdner repeated this test with healthy urine, as well as with diabetic urine, and found that, in two specimens of perfectly healthy urine, a precipitate was obtained by Trommer's process, which in colour and appearance was entirely different from the black oxide of copper. The precipitates in question were in rather smaller quantity than usual, flocculent, and of a light orange colour, and were surrounded by a fluid deeply tinged with orange. On adding sugar to a portion of one of those urines, and subjecting it again to the test, the precipitate which resulted differed in no perceptible degree from the former. The precipitate in the diabetic urine operated on (which was very strongly saccharine) differed from these in being much more abundant, and somewhat brighter in hue; but the colour was essentially the same in both, viz. deep yellowish-orange. The fallacious nature of the test is clearly indicated by these observations; other experiments have still further confirmed Mr. Gairdner in this idea, and incline him to the conclusion that it is not the sugar alone which is concerned in the changes in diabetic urine. The tendency of sulphate of copper to form peculiar compounds with organic principles of all kinds, and the extremely various results

when such compounds are submitted to Trommer's process, is another circumstance which tends to induce a suspicion of the fallaciousness of this test. Thus, a dilute solution of albumen (white of egg) gives a dark brown precipitate when treated by Trommer's process; a single drop or two of tincture of galls gives a red or purple precipitate in a brownish liquid; and a greatly diluted portion of skimmed milk gives a gold-coloured precipitate in a bright green liquid. Mr. Gairdner deems it probable that the precipitate thrown down from diabetic urine by Trommer's test is not uncombined protoxide of copper, but that both in this case and frequently in healthy urine, that precipitate is the result of a combination of the oxides of copper with various animal matters which occur in the urine.

Remarks upon the Early Condition, and probable Origin of Double Monsters. By Allen Thomson, M. D. F.R.S.E. &c. &c. (London & Edinburgh Monthly Journal of Medical Science, July, 1844.)

In the preceding Number of the Journal we gave an analysis of the first part of Dr. A. Thomson's Paper on the subject of double malformation. We shall now present to our readers a few remarks from the same writer upon the theories which have been proposed to explain their origin. Three speculative views have been taken of this subject. 1. The double monster has been supposed to have proceeded from two distinct germs, which have become united in the course of development; 2. It has been held to have originated in a single germ, which has become double or has been subdivided; and 3. The germ has been regarded as abnormally compound from the first, implying that the organs and parts composing the double monster are at once produced from the germ, without either separation or coalition of its parts, other than belong to the natural process of development. This last view appears to be more in accordance with our knowledge of embryology than either of the two before mentioned.

The various forms of double mal-formation, considered with a reference to the theory of their origin, may be distinguished into two sets; in one of which the united embryos, or, if they are not complete, the parts composing them, have arrived at a nearly equal degree of development; in the other, an imperfectly formed body, or a part of one, is either attached to or inclosed in a more perfect embryo. This last set includes the various forms of Parasitical and Inclosed Double Malformations. The following arguments are among the more convincing that may be adduced in support of the view that double monsters are of original formation, and not the result of any secondary or accidental separation or combination of germs.

1. The different varieties of double monsters form together a complete series of gradation, from the smallest to the greatest degree of the double condition; and in this series, as in those of simple mal-formations, the forms are by no means infinitely varied, but analogous deviations of structure are constantly returning; so as to give no countenance to the idea, that any variation of external circumstances could determine either the manner or the degree of combination existing between the two component individuals.

2. In this combination of the two individuals, or of some of their parts, the most remarkable symmetry is preserved: for there is not any appearance of the junction of parts fortuitously brought into juxta-position; but, on the contrary, an invariable union of only similar or corresponding parts in the two bodies. For the most part that union is to an equal extent in the two individuals; and in the majority of those cases wherein the duplicity is a mere redundance, this superadded part is not single or unilateral, but rather median and common.

3. We observe in twin conceptions the ova frequently pressed closely together, without any tendency to the union of the fœtuses. These circumstances render

it improbable that mere accident can have contributed to any great degree to bring about the union of the parts of the two embryos.

Still, however, though it appears necessary that the compound parts of a double monster should be at once formed and developed as such from the monstrous germ in which they originate, it is obvious that the process of double development must differ in some important respects from that in a single embryo. It is interesting to observe here, that while the development of the parts on the external or remote sides of the two united embryos may be quite or nearly natural, that of the uniting parts must generally be of an anomalous kind.

In the separate parts of double monsters, their development is independent, and may be natural,—in the united portions it is compound and abnormal.

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Another subject of interest connected with the history of double monsters, is the relation between the symmetrical arrangement of the organs in the two united individuals, and the position of the embryos in the ovum at an early period. It is a remarkable fact, that those internal organs of the body, such as the heart and liver, stomach, pancreas, colon, &c. which are non-symmetrical, are generally reversed in the body of one of the individuals composing a double monster. Von Baer offers the following theoretical explanation of the cause of its occurrence.

The embryo of the bird during the first thirty-six hours of its formation, lies with its abdominal surface downwards, and its dorsum upwards, and its parts are nearly in a symmetrical position; but in the course of the third day of incubation in the egg of the common fowl, a change of position occurs, by which first the head, then the thoracic part of the body, and still later the abdominal and caudale portions, come to be laid with the left side of the embryo towards the subjacent surface of the membranes of the yolk; so that in opening a fowl's egg, the small end being directed away from the observer, the cephalic extremity of the embryo will generally be found directed transversely across the yolk, laid in part on its left side, and with its head towards the left hand of the observer. Von Baer had remarked, in very rare instances in the bird's egg, more frequently in the ovum of the pig, the embryo lying with its right side applied to the yolk; and he has very ingeniously supposed that inversion, partial or general, in the position of the non-symmetrical organs, may be connected with this mal-position of the embryo at an early period.

The union between the two embryos composing a double monster may be either visceral or cerebro-spinal. The latter mode of union, when simple, is of comparatively rare occurrence—it in general is by more or less of the visceral parietes, that the two individuals are conjoined. The best known instances of cerebro-spinal union are those in which a part of the cerebro-spinal axis (upper or lower) is common to the embryos, and the remainder double. In such cases, however, there is also invariably visceral union to a considerable extent. A much rarer form of cerebro-spinal union occurs in those examples in which there is no visceral fusion, there being two complete, or nearly complete, embryos, conjoined either by the *vertices* of their heads, or by the opposite extremities of the vertebral column. In cases of lateral union of two embryos by the visceral parietes, there is generally more or less of the fusion of corresponding parts of the two embryos between them, such fusion being attributable to the simultaneous and compound development of the united parts. But there are instances of an intimate union of this kind occurring on both sides of the body in those double monsters in which the embryos are opposed to each other, more or less directly, face to face. We may here refer to the very remarkable symmetrical union of the parietes of the body or head, presented in the various forms of the Janus-like double monsters. We shall return to this interesting Paper at a future period.

Chronic Empyema—Paracentesis, &c.

Dr. Wells, of Columbia, relates an interesting case which occurred in the person of a medical gentleman, about 33 years of age, when he came under his care in the beginning of June, 1836. About 12 months previously he had an intense pleurisy of the left side, which gave way to active treatment, leaving a pain and sense of weight in that side, with slow fever, quick pulse, dyspnœa, and inability to lie on the right side. In four or five weeks these symptoms partially subsided, and his appetite returned; but dyspnœa and palpitation remained. Fluctuation became evident in the left cavity of the pleura, and the ribs of that side were bulged out.

June, 1836.—The heart was found beating in the right side of the chest—no respiratory murmur in the opposite side, which was one-third larger than the right—intercostal spaces very wide—hectic fever—pulse small and rapid—face bloated, with various other symptoms indicative of the nature of the case. On the 7th June paracentesis thoracis was performed, and between two and three quarts of thin inodorous pus was discharged, with much relief, but with such faintness that the further issue of fluid was stopped. In the evening two quarts more of the fluid were drawn off—faintness was produced—and another interruption occurred. In the middle of next day, June 8th, the tube was introduced, and about two quarts of fluid were drawn off, when the stream was interrupted, the thoracic parietes not being capable of farther compression. 9th. Complained of oppression, and about a quart of fluid was abstracted, with relief. 10th, Another quart drawn off. A quantity of air was this time sucked in, and produced inconvenience. 11th. Febrile excitement—embarrassed respiration. Drew off a quart of intolerably fœtid matter. 12th. Less fever—similar discharge from the chest. 13th. Discharge the same—debility increasing. A quarter of a pint of weak solution of chloride of soda was injected into the chest, and the greater part of it soon afterwards withdrawn. 14th. Did not experience any inconvenience from the injection, but seemed relieved by it. The irritation and fever subsiding—fluid withdrawn this day less fœtid. The injection repeated, and most of it suffered to return, after a few minutes.

"It is unnecessary farther to detail the daily treatment in this case. It was found impracticable to prevent more or less air passing into the chest at each operation, and as little or no inconvenience resulted from it, under the counteracting influence of the injection, it was no longer regarded. The free extremity of the elastic tube was bent downwards below the level of that within the cavity, giving to the instrument the properties of a syphon, and the whole of the secreted fluid daily evacuated, and the solution of chloride of soda injected, gradually increasing its strength and its *quantity*, until it corresponded with the *quantity of matter* drawn off at each operation. From this time to the 20th of July, when he left Columbia, the same course was followed up. The discharge soon lost its fœtor, and gradually decreased in quantity from the time we commenced the use of the injection, so that on his departure it amounted to about three gills in the twenty-four hours.

"During this period, a little over a month, his recovery was uninterrupted by any untoward symptoms; the state of his digestive organs were carefully watched, under the influence of an alterative, tonic course; and as his appetite and powers of digestion improved, he was allowed a more liberal diet. For the last ten days he remained here he was able to take a short walk daily, and with much more ease to himself than when he came; the prominence of the left side of the thorax, and upper part of the abdomen, had subsided; the heart had made some progress towards the left; but no respiratory murmur was yet perceptible on that side. His appetite was good; sleep much improved; and when he left me for

Cheraw he felt full confidence of a speedy recovery. He was advised to continue the same course of treatment until his health should be restored."

The month of August was spent at a mineral spring in South Carolina, with considerable benefit to the patient's health.

On the 7th March, 1837, he reported that his health was progressively improving—that he had no cough, no pain, and was able to ride on horseback without fatigue more than 20 miles in a day. The quantity discharged now was about a gill in the 24 hours, being thin and inodorous. The left side of the chest had fallen in considerably. He had, for some time, left off the injection, and, indeed, all medicine. In March, 1844, Dr. Queen, his medical attendant, wrote to Dr. Wells to say that the fistulous opening still continued, and the discharge was nearly the same as in May, 1837. The left side of the chest was very much contracted, and the right side bulged out. The heart, however, had nearly regained its natural position; but there is no respiratory murmur in the left side of the thorax. His general health was very good, and he was able to take considerable exercise without much fatigue. Dr. Wells has added to this case several judicious reflections on Paracentesis Thoracis and Empyema.—*American Journal of the Medical Sciences.*

PHLEGMASIA DOLENS IN MALES.

MR. GREENHOW relates (in the Prov. Journal) the case of a young man in the Infirmary of Newcastle-on-Tyne, who was operated on for a mulberry calculus, and went on tolerably well till the eleventh day, when he complained of pain in the left iliac region, greatly increased by pressure. In a day or two it extended to the groin—then the thigh—and ultimately the leg; bearing an exact resemblance to phlegmasia dolens of women. The swelling, pain, and stiffness continued for several weeks. The usual means were employed, viz. leeches, fomentations, liniments, &c.

A case of this kind has lately fallen under our notice, and was seen by Sir B. Brodie, Dr. Chambers, Dr. Johnson, and others. The patient was a medical gentleman, who fell into a bilious and ultimately a typhoid fever, which lasted a month, when an extensive slough formed on the sacrum, nearly laying that bone bare. When the slough had entirely separated, and when the extensive wound was filling up with healthy granulations, pain occurred in the left groin, and inflammation spread down the thigh, in the course of the great vessels, with as great tumefaction as ever occurs in puerperal phlegmasia. The swelling was pale—partly elastic—partly œdematous, and the pain very distressing. Leeches, fomentations, mercury, liniments, and all the usual means, were employed; but the disease ran a long course, and its sequelæ have not yet disappeared. This poor gentleman had three narrow escapes from death:—first, the fever—secondly, the slough—and lastly, the phlegmasia dolens.

MR. R. PHILLIPS, JUN., ON A NEW METHOD OF FORMING IODIDE OF POTASSIUM.

MR. PHILLIPS having occasion to employ the Iodide of Potassium, procured six samples of it from different chemists, and found such impurities as evince the necessity for a good method of forming it. After pointing out the objections to the process usually resorted to, Mr. Phillips goes on to say:—

"Another method is by boiling lime with iodine, thus forming an iodate of lime and an iodide of calcium, fusing the mixture to decompose the iodate, and

then precipitating the lime by means of carbonate of potash, a carbonate of lime and an iodide of potassium being formed. In trying this process, it occurred to me that if I could add a body which would decompose the iodate of lime, the trouble and loss of fusion would be avoided, and this body I found in the protoxide of iron. It is easily prepared by precipitation with the alkalies from the protosulphate of iron. The precipitate must be washed by decantation, on account of its being rapidly converted into the peroxide, if exposed to the air until the solution gives no precipitate with chloride of barium. By this process the iodate was decomposed, its oxygen uniting with the protoxide of iron to form peroxide; it was, however, so mixed with carbonate of lime, as to be valueless. I found that on mixing the iodine directly with the carbonate of potash, the latter was converted into iodide of potassium and iodate of potash. The following is a diagram of the decomposition that ensues, except that potash is substituted for carbonate of potash, as the carbonic acid is expelled.

1 atom of Iodate of Potash.

1 atom of Iodic Acid. 1 Potash.

5 atoms of Potash { 5 Oxygen, 5 Potassium } Iodine 1 { 6 atoms of Iodine.

5 atoms of Iodide of Potassium.

"The protoxide of iron was then added, when the iodate of potash, in the same manner as the iodate of lime, was decomposed, with the following changes:—

12 atoms of Peroxide of Iron.

1 atom of Iodate of Potash { 6 Oxygen, 1 Potassium, 1 Iodine } 12 Oxygen, 12 Iron { 12 atoms of Protoxide of Iron. 1 atom of Iodide of Potassium.

"Peroxide of iron being a sesquioxide, that is to say, containing one atom and a half of oxygen combined with one of the metal, it is necessary, in order that the whole of the iodate be decomposed, that for every atom of carbonate of potash used, there should be two present of protoxide of iron. The quantities, therefore, to be taken, are two atoms or 280 parts of protosulphate of iron, which are to be decomposed into two atoms of protoxide, one atom or 125 parts of iodine, and one atom or 83.5 parts of carbonate of potash, P. L. On account, however, of the liability of the protoxide of iron to become peroxide, it is better to take rather more of the protosulphate.

"The protoxide, when washed, is to be mixed with the iodine and carbonate of potash, the proportion of water employed being half a pint to one ounce of iodine. The mixture is at first to be gradually heated, and then boiled for half an hour. The solution afterwards ought to be exactly neutral to slightly reddened litmus paper; if iodine be found in excess, which may be proved by the addition of a solution of starch to a little of it, more of the carbonate of potash must be added; if, on the contrary, it be alkaline, more of protoxide of iron and iodine.

"The sesquioxide of iron remaining after being washed until the liquor gives, when acidulated with nitric acid, no blue colour if solution of starch be added, may be heated red hot for a few minutes, a beautifully pure preparation remains, which, on account of its easy solubility in hydrochloric acid, might be used with much advantage in the preparation of the tincture of the sesqui-chloride of iron. I have several times mentioned a solution of starch: it may be as well to observe, that it requires a temperature of about 170° to dissolve this substance."—*Pharmaceutical Journal*, August, 1844.

Gonorrhœal Orchitis and its Treatment by Narcotics. By J. Gay, Esq. F.R.C.S.E. Surgeon to the Royal Free Hospital, &c.

Cases are recorded in some of the recent numbers of the Lancet, showing the efficacy of narcotics in that, the most common, form of orchitis which is met with after the fourth week of gonorrhœal urethritis; and pages 602, 3, and 4, of the same Journal contain an article in which Mr. Gay's views of the nature of this affection, and the reasons which led him to adopt this mode of treatment, are set forth, of which the following is a summary.

The prevailing symptoms of this affection are:—"general debility shown by unusual pallor of the face and mucous membranes: the skin covered with large drops of perspiration on slight exertion; quick pulse; furred tongue; high-coloured urine, and constipation. The local symptoms set in with dull aching pain about the testicle and epidydimis, increased on pressure; and the formation of a dense tumour, generally in the most depending portion of the epidydimis, and circumscribed by its investing tunic. Inflammatory action commences in the part, and extends itself to the tissue of the testis; the whole swells, becomes more and more dense, and so acutely painful that the slightest touch can scarcely be borne. The vas deferens, cord, and scrotum, next become involved in one swollen, painful mass, the veins of the latter tunic becoming exceedingly congested with dark blood. As the inflammatory action proceeds, so does the condensation of the tissues (first observed as a small hard tumour of the globus minor) extend upwards, involving in its progress the lowest portions of the testis and epidydimis, until, eventually, in extreme cases, the testis and epidydimis become one dense compact mass."

These symptoms are introduced by a dull pain in the testicle, only discovered by pressing that organ: and hence it is of the utmost importance during the continuance of that stage of a gonorrhœa favourable to these affections, that the testis should be constantly watched, so that any increased susceptibility of touch may be detected; and by the use of appropriate remedies at this period, the more serious consequences be averted. The spread of the inflammatory action from the testis to the adjacent and tegumentary tissues in all probability depends upon the obstruction which the abdominal ring offers to the free return of venous blood consequent upon a swollen condition of the cord from effusion into its cellular tissue; and it may admit of some doubt, whether the parietes of the inguinal canal may not, under these circumstances, *spasmodically* contract upon the swollen cord; for it is a remarkable fact, that upon the administration of a remedy in such cases, whose tendency is to allay spasm, the inflammatory action of the cord and integuments which is last set up, is most frequently the first to subside.

The following case will illustrate this pathological view. In December, a man named S—, ætat. 48, was brought into the Royal Free Hospital, having fallen from a scaffolding, and was so injured that he died. Two days before his death, and three days subsequent to the accident, a *violent* attack of orchitis came on, the inflammation involving, in order, the epidydimis, testes, cord, and scrotum. The parts were all very much swollen as high as the external ring. He had discharge from the urethra. The veins over the scrotum, and throughout the inflamed parts, were excessively distended; the testes and epidydimis, on being cut through, showed the first stage of inflammation, the cut surfaces exhibiting a roseate tint, and a vast number of small vascular points throughout. The globus minor of the epidydimis, and most depending portion of the testis, were, by a shade, of a deeper red than the other parts, and slightly more dense; the structure in these parts being rather more distinct, in all probability, from the commencement of effusion of lymph between the tubuli. There was a little fluid, probably not more than in health, in the tunica vaginalis. The sheath and tissues of the cord were excessively distended by serum and venous blood.

Amongst the causes of this affection, the chronic disease of the urethra which maintains the discharge, is obviously the most important: but it does not stand alone, for such diseased action may continue for months and yet no affection of the testis supervene. Combined with it there must be other agents, and these are ever of a depressing character, and calculated to bring about those general indications of debility which the symptoms that have been recounted present; such as the long use of purgative medicines, low diet, mental disquietude, the disuse of accustomed invigorating exercises, &c. The immediate cause will generally be found to be either over-exercise, especially walking, a blow, *constipation*, improper stimuli applied to the urethra, sometimes the operation of a drastic purgative, or several of these combined.

The orchitic affection *commencing* in the testis, and thus showing its purely sympathetic character, differs essentially from that form, to which M. Ricord refers, in which it occurs "from succession or continuity of tissue, or *by extension of the inflammation from the urethra to the canalis ejaculatorius and thence to the vesicula seminalis, canalis deferens, and lastly to the epidydimis*, as demonstrated by pathological anatomy." This form is rarely to be met with, occurs in the acute stage of gonorrhœal urethritis, and is amenable only to active anti-phlogistic treatment.

With regard to the influence of the discharge from the urethra upon the orchitis, Mr. Gay does not regard it as a "translation of the inflammation," as Mr. Hunter supposed. Mr. H. says, "a swelling in the testicle coming on shall remove the pain in making water and suspend the discharge, which shall not return till the swelling of the testicle begins to subside; or, the irritation in the urethra first ceasing, shall produce a swelling of the testicle which shall continue till the pain and discharge return, thus rendering it doubtful which is the cause and which the effect. I have, nevertheless, known cases where the testicle has swelled, and yet the discharge has become more violent; nay, I have seen instances where a swelling has come on, after the discharge has returned with violence, and remained as long as the swelling of the testicle." The explanation of these admirably described and apparently anomalous facts, Mr. Gay conceives to be as follows. Orchitis setting up during the continuance of a discharge from the urethra, acts upon the primitive seat of disease as a counter-irritant, and may or may not be effective in arresting the discharge; the failure to do so being for the same reasons (whatever they may be) that the application of blisters with the view of removing chronic disease in any organ does not in all instances effect its purpose. But there can be no doubt that, as the chronic disease of the urethra was the cause, without which the subsequent orchitis could not have existed, the speedy removal of the one is essential to the cure of the other. Hence the popular plan of renewing the discharge from the urethra by means of bougies and other irritants is most unsafe and unphilosophical; on the other hand, the employment of a mild injection of sulphate of zinc, or di-acetate of lead, or, should the disease have existed long, of a strong solution of nitrate of silver, will be found as safe and necessary as it is reasonable.

From these data Mr. Gay infers:—

"1. That by a protracted gonorrhœal discharge from the urethra, and the remedies used for its cure, the general health suffers, and a state of diminished tonicity, with irritability of the whole system, is produced.

"2. That from sympathy with the seat of discharge the nerves of the testis and epidydimis become affected with an especial degree of morbid sensibility. This *particular* sympathy of the secreting apparatus with the urethra is constantly noticeable. An injection, which gives pain to the urethra, will always impart uneasiness to the testicle.

"3. *That thus prepared*, local exciting causes will produce inflammation of a low order in the cellular tissue, connecting the seminal tubules (for it is obviously that element of the gland that the diseased action, in all its stages, occupies,

from the fact that there is no obstruction to the passage of the seminal fluid during an attack of orchitis).

"4. That the results of this action are effusion and venous congestion, from a want of power in the veins, (owing to their participating in the systemic asthenia,) to return the increased supply of blood to the testis.

"5. That congestive inflammation of the *adjacent and tegumentary textures* with its consequences will follow; and probably an extreme of this condition will be produced by the obstruction to the free return of venous blood from the testis, which the external abdominal ring has been found to offer."

Hence Mr. Gay deduces the practical fact, that opium, hyosciamus, or other narcotic, so given as to produce indubitable evidence of general narcotism, does and will speedily effect a cure of this special form of orchitis by allaying that general and local irritability which is presumed to exist as the immediate cause. But it is found imperatively important that the bowels should *first* be thoroughly evacuated by a brisk and cleansing purgative; and the aperient should be repeated in three or four days if the bowels tend to constipation, which is a constant feature in this affection. The anodyne Mr. G. uses is the tincture of hyosciamus, of which from 15 drops to a dram may be given every four or six hours, according to the urgency of the case, and at the same time cold applications should be made to the scrotum, and the patient be required to remain on his back with his hips raised. This treatment is however but another plan of fulfilling the same intention for which Frieke's system of bandaging was devised, but it is more extensively applicable, more easily employed, and equally remedial.

LEPRA GRÆCORUM CONTAGIOSA?

Nova Pestis Adest!

THE inhabitants of New Brunswick are at this moment labouring under a LEPRA-PHOBIA, little inferior in violence to the Cholera-Phobia which prevailed in this country, during the eventful years of 1831-2! The Government, like the Parent Government, issued a commission to investigate the terrible malady; and the following is a critique on the "Report" of the said Commission.

"*Brief Remarks on 'The Report' laid before the Government of New-Brunswick by the Medical Commission appointed by the Lieutenant-Governor to investigate the Nature, Causes, &c. of a Disease termed Leprosy, prevailing in certain French Settlements in that province, bordering on the Gulf of St. Lawrence.*—By ALEXANDER BOYLE, M.D.

"A REPRESENTATION having been made to the Lieutenant-Governor of New Brunswick, that a disease of a highly malignant and loathsome nature, receiving the name of *Leprosy*, had been discovered among the inhabitants of certain French Settlements in the Counties of Gloucester and Northumberland, in that Province; a Commission composed of four Medical Gentlemen and the French Clergyman residing in that district, was appointed for the purpose of investigating its nature and causes, and suggesting such measures as might be judged necessary for its prevention.—The Commission entered on this inquiry in March last, and the result is now before the public; and a sum of £1000 has been granted by the Provincial Legislature, to enable the Government to carry into effect the measures proposed.

"As they have 'unanimously recommended the erection of a Lazaretto, the removal of the sick, and their strict seclusion in that establishment,' as means

necessary to guard against the extension of this malady, which, they consider as not only hereditary, but *contagious;* I have been induced to examine some of the more prominent facts which they have brought forward in support of this opinion; with the view of determining how far it is expedient, on this occasion, and on the grounds exhibited, to have recourse to measures involving extreme hardship on individuals, and not devoid of injury to society, and which ought never to be adopted under the sanction of causes which admit of doubt;—and with what probability of success those measures are calculated to accomplish the end proposed.

"It may, in the first place, be observed, that much confusion has been introduced into medical writings, in consequence of doubts respecting the disease to which the name of *Leprosy* more properly belongs; arising, as is supposed, from the inaccuracies of the translations of the Greek and Arabian authors who treat of this subject, and who have sometimes described, under the same title, three different affections, very distinct in character, namely, the Hebrew Leprosy, a scaly disease; the Elephant, or Barbadoes leg; and the 'Tubercular' disease, now under consideration. It is, however, at present unnecessary to enter farther upon this subject, as the disease in question must be viewed under the aspect presented to us by the cases given in the 'Report,' where it is classed under this last denomination; and, as observations of *modern* date have removed much of the perplexity by which it was obscured, there is less difficulty in assigning to each its proper place in nosological nomenclature.

"The facts collected, and which form the subject of the official document, are interesting; and the cases are detailed with a degree of accuracy and clearness, leaving no doubt as to the existence of a disease which has all the characteristic symptoms of the 'Tubercular Elephantiasis' of modern nosologists, the 'Juzam' of the Arabians, and the 'Lepra Græcorum' of the middle ages, by which its identity is fully established, and which, therefore, need not now be repeated.

"It is stated in the 'Report,' that no *positive* conclusion could be drawn as to its original appearance in this quarter;' but, that according to the information that was received from the oldest settlers, the first case occurred in the person of Ursule Laudre about the year 1817, nineteen years after her marriage with Joseph Benoit, of Tracadie, a small French settlement situated in a part of this Province, bordering on the Gulf of St. Lawrence, and where she went to reside after her marriage. Her father, mother, and their children, *nineteen* in number, appear, with the exception of Ursule alone, to have been perfectly healthy. She was married about the year 1798 or 1799, and having been affected ten years *before* her husband, (for, it appears, he also became affected with it,) it would be absurd to suppose that she possibly could have received the infection from *him;* neither can we suppose that he could have contracted it from her, for he continued free from it until three years before her death, which happened in 1829; a period of twenty-six years after their marriage, and of his having lived with her about ten years *after* she had shown all its unequivocal symptoms. After the birth of her fifth child, Ursule ceased to bear children: and it is stated that, from that time, her health continued to decline for six or eight years, when the disease was no longer doubtful.

"Upon the whole, other facts stated in the 'Report' are not more favourable to the existence of *contagion* as a cause of this disease, than those already mentioned; for it is not shown from whom Ursule received the infection, nor is it proved that she communicated the disease to any one, either by direct contact, or through the medium of substances imbued with a contagious principle. There is, indeed, no sort of analogy, as far as those facts go, between this disease and those of a contagious nature; in most of which, we can, almost, as it were, detect the contagion in its passage; and it is only by analogy we can reason on the subject. The latent period in contagious diseases is never long—

being only two or three days, sometimes less, and seldom exceeding three weeks; whereas, in the present instance, several years of continued intercourse intervened from the first communication with the infected person to the time of its appearance in the individuals exposed.

"As it is admitted by all that 'Tubercular Elephantiasis,' or the Greek Leprosy, as it is sometimes called, is an *hereditary* disease, and like Scrofula may pass one generation and appear in the next, when concurring causes favour its development; the taint in one of the nineteen children of Laudre *pere* (Ursule) may have been derived from a source to which, at this distance of time, it cannot, perhaps, be traced; and the case of the only *one* of her five children who was affected, must be referred to the same category; while the exemption of the other four, though living in continued intercourse, completely overturns the doctrine of *contagion*, and is in perfect analogy with the facts observed in Scrofula and other diseases which are transmitted from parents to their posterity, affecting some and sparing others, according to circumstances not often very evident or easily explained. The case of Frances Savoy is not less decisive. She has a family of six children, and only *one*, a boy of eight years of age, is affected. She herself has had the disease four years and a half, in a severe form; 'her husband sleeps with her every night, and is in perfect health.' P. Savoy's case is a severe one. He has a wife and four children, but all of them are apparently healthy. The case of T. Robicheau bears equally on the same point. He is about fifteen years of age, and has been affected six years; and his uncle was recently carried off by it; marking, decidedly, *hereditary* transmission in that family.

"It must, indeed, attract particular notice, as a singular feature in the 'Report,' that, as regards *contagion*, so many of the facts related militate strongly against the conclusion which has been deduced from them, on this important question.

"The affected district is situated between the Bay of Chaleur and Miramichi River, and the intercourse between it and Canada, Prince Edward Island, Nova Scotia, and the adjoining Counties of New Brunswick, has been frequent and uninterupted; and, though the disease was known to have occasionally existed in some parts along the Gulf shore at a date anterior to that assigned to it in the 'Report,' it had not, it would appear, been propagated to any of the above-named places, nor been considered of that importance, or so frequent at the time, as to attract particular notice, or excite any serious alarm; and it is only now, though twelve cases terminated fatally, and, as appears by the 'Report,' after it had prevailed in Tracadie for a period of twenty-seven years, that the attention of the Legislature has been called to it, as fraught with public danger, and requiring rigid measures of prevention!

"That the original source of the disease is to be detected in any geological peculiarity observable in the tract of country above-mentioned, is not very probable; atmospheric causes are temporary, though general in their operation, giving to diseases an epidemic character; and the climate and cultivation of the soil, if not much improved, certainly are not deteriorated. The habits and mode of living of the French inhabitants in that part of the Province of New-Brunswick, it may also be remarked, have always been pretty much the same since its first settlement, with those in other parts of British North America, except, that the fish, which constitutes almost their sole article of food, is not, perhaps, of the same wholesome quality as among some of their neighbours, owing to their poverty, which often prevents them from procuring the means necessary to preserve it for use. Some further facts, therefore, are wanting to render our conclusions as to the primary cause of its appearance in that locality satisfactory; and it is to be regretted that it could not now be traced further back than the case of Ursule Laudre, in 1817.

"The inhabitants of this district are of the Norman race, and descended from those Frenchmen who visited North America at a very early period of its settle-

ment; and by whom, it can scarcely be doubted, the disease was brought to this part of the world; and the superb structure erected by Henry II., Duke of Normandy, at Caen, in 1160, for the reception of Lepers, (but long since appropriated to another use,) attests to this day the prevalence of the disease, in former times, in that country, where it had been, in a manner, naturalized since the time of the Crusades. It is of no small importance, therefore, as tending to throw a ray of light on this part of the inquiry, to know that Ursule's father was an 'Acadian,' that her mother was of 'Caranuette' in the Bay of Chaleur, and her husband from 'Tracadie,' on the Gulf Shore; for it is also known that the *Baie de Chaleur* and the north-east shores of *Acadie* were places where those adventurous navigators first encountered perils; and the disease may have even disappeared for a season, and at different periods from that early date sprung up again among their posterity, who appear still to inherit the original taint.

"From the facts stated, it does not appear what has been the total number of cases from the year 1817 until the present time, although nineteen '*confirmed*' cases were found at the time of their visit; a proportion not exceeding, perhaps, that of any other disease, acute or chronic, which has appeared in this district during an equal period, reckoning from the average duration of the cases recorded in the 'Report;' and it might, perhaps, be also ascertained, that the deaths from any one of them were not less numerous than those from Leprosy, which, as far as we are informed, amount to twelve.

"Having thus taken a brief review of the principal data furnished by the Report, and on which the Commissioners found their opinion as to the *contagious* character of the disease, which alone could warrant recourse to the seclusion of the affected and the adoption of Lazaretto regulations and restrictions; it may not be deemed unprofitable or uninteresting, in a question which so deeply involves the comfort and safety of a large portion of society, to quote some *modern* authorities of the highest weight in the medical profession in support of the opposite doctrine, or *non*-contagious nature of this loathsome disease, which is universally acknowledged to be *incurable*.

"In an article in the 'Dictionair de Medicine et Chirurgie pratiques,' by Bouillaud, vol. 5, p. 425, he says, 'La contagion a été admise par certains auteurs dans une foule des cas ou elle n'existe realment pas. Quel est le medecin observateur qui ajoute foi maintenant à tout ce qui a été debité, par exemple, sur la contagion de la Lepre,' &c. And again, vol. 5, p. 435, when speaking of isolating the sick and of sanatory cordons, he expresses himself thus: 'Les attaques dont cette mesure sanitaire a été l'objét dans ces derniers temps, paraissent bien fondées, et le moment n'est peut-être pas eloigne, ou elle sera completement abandonnée.' To this effect, also, in an article in the same work, vol. 14, p. 19, by Ch. Londe, when speaking of the instructions relating to Quarantine, he says, 'Le Lepre arrive, dans *les Instructions*, en quatrième ligne; mais parmi les gens qui ont bien observe cette maladie, aucun aujourdhui ne croit plus a sa proprieté contagieuse; les dispositions atroces, prises contre les lepreux, sont tombées en desuetude, et ces malades sont admis parmi les autres dans nos hôpitaux, sans que jamais on se soit aperçu de la transmission de leur affection.'

"In a paper in the Cyclopedia of Practical Medicine, on 'Contagion,' by Dr. Joseph Brown, we find the following remark:—'There are two other diseases which were *formerly* considered contagious, Lepra Græcorum and Lepra Arabum, (Elephantiasis.) The former is unquestionably not contagious; and from the observations made by the late Dr. Adams in the Lazar-house at Funchal, there is every reason to think the latter equally devoid of that quality.'

"Numerous authorities might be quoted to the same purpose, but the above are conclusive; and the proofs of *hereditary* transmission are not less clear and cogent.*

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* Rayer, Bateman, Alibert, Robinson, T. Heberden, Ainsley.

"Various external causes have been mentioned as producing this disease; and there is a general assent as to the agency of bad food, especially putrid fish, and vicinity to the sea shore. There is, however, in many instances, the greatest difficulty and uncertainty in accounting for its appearance; and the above, like those of a moral nature, of which a remarkable instance is recorded by the celebrated Alibert as coming under his own immediate care (Precis, &c. vol. 2, p. 84), it is presumed, act chiefly by awakening a latent hereditary predisposition; and it must be confessed, some cases baffle all conjecture. The testimony of Sonini and Pallas is referred to by the same author as opposed to the doctrine of *contagion*.

"Having myself seen, some years ago, a well-marked case of this disease which leads to conclusions in perfect accordance with the opinions of those eminent men, I may be permitted, in this place, to bring it under notice. It occurred in a person about thirty years of age, a native of Antigua. He had laboured under it for a considerable length of time, and came to Nova Scotia for the benefit of his health, where he married an interesting young lady, about two years after I saw him. After this, he came to Saint John, and was under the care of Dr. Boyd and myself for about two months. His breath was extremely offensive, and his hands, face and legs were covered with blotches and tubercles of a livid, brownish colour; and some of them were in a state of ulceration. He afterwards went to New-Orleans, in a worse state than when he first left the West Indies; and died of this disease not long after his arrival. During the whole period of his illness, from the time of his marriage, his wife was most assiduous in her attentions to him, and occupied the same bed; but neither she nor any of the inmates of the boarding-house where they lodged for nearly twelve months, and with whom they had daily intercourse, ever showed the least mark of the disease. He had no children; and after his death, his wife returned to Nova Scotia, where she has continued to enjoy perfect health.

"In the course of the above remarks, I have purposely abstained from all opinions respecting the operation of contagious miasmata, or the manner of their introduction into the blood, as foreign to the object of the present inquiry; and as chemistry has, hitherto, thrown but feeble light on the nature of their elementary constituents, or the changes they effect on the circulating fluids.

"Several important organs undergo a morbid alteration of structure during the progress of this disease; but, as its pathology is unconnected with the question at issue, it need not now engage our attention.

"It is generally admitted that Pulmonary Consumption is, according to the common acceptation of the term, an hereditary disease, usually developed by the action of exciting causes. In some countries, it is also deemed contagious; and the houses which have been occupied by persons who die of this complaint, are always left deserted. In New-Brunswick, its occurrence is very frequent; and, though not deemed contagious, it may certainly be pronounced *incurable*. So far, the parallel between it and Leprosy is strictly correct; but surely, it would not be recommended that those persons labouring under Pulmonary Consumption throughout the Province should be torn from their families and left to die in a Lazaretto; nor can it be imagined that any such measure would be proposed to prevent the continuance of so great a scourge of the human race; as it is sufficiently evident, how fruitless the attempt must be, by the removal of a few, to arrest the progress of a disease whose germ, unhappily, is but too widely spread among mankind, and whose extinction is beyond the reach of legislative power.

"During the prevalence of the Asiatic Cholera in Europe, erroneous opinions regarding its contagious character led to the adoption of similar measures of prevention; but experience has since taught us how useless and unnecessary they were, and how injurious to the interests of society; and the novelty of the disease among us, and its still inexplicable nature, afford the only vindication of the

course pursued during that period of general consternation. In no part of Europe was Leprosy so prevalent at one time as in France, from the eleventh to the sixteenth century. It is now chiefly confined to the tropical and equatorial regions, being rarely met with in Europe since the seventeenth century; and the advanced and more refined state of society accounts for its gradual disappearance; while greater experience has banished all dread of its supposed contagion, and opened their noble hospitals to the admission of Lepers, without distinction, among other patients; and numerous Lazarettos of great extent have long been converted into retreats for the aged and infirm, or like purposes of general philanthropy and benevolence.

"I trust it will appear, from what I have said, and the authorities I have referred to, that any measures of prevention which require seclusion of the sick, much less the severity of Lazaretto regulations, are not warranted, on this occasion, by the facts on which their adoption is grounded; and as their uselessness and impolicy have nearly expunged them from the code of civilized nations.

"The formation of any hospital *exclusively* for the reception of leprous patients is also objectionable, as entailing an endless expense on the Province; especially if County Hospitals already exist, or similar establishments, into which, as experience has abundantly shown, they may be received without the remotest injury to other patients; and of which, the 'Report' itself furnishes ample proof. The disease being incurable, little good is to be expected from hospital treatment; which, at best, could only be palliative. Much, however, may be done to obviate some of the causes which render the human body liable to various diseases arising from noxious emanations, as well as from atmospheric influence and hereditary predisposition, by inculcating the necessity of a proper hygiene throughout the French population of that district; by which the constitution may be enabled to resist the influence of external agents; and without which, it is to be feared, the disease will finally cease only with the extinction of the race.

"With this view, inquiry should be made by the Clergymen of the district to which the disease is confined, into the habits and means of subsistence of the several families under their pastoral care,—their occupations, their clothing, their ordinary food, and the state of their habitations; and according to their age, sex and number of children, such pecuniary aid should be given as would relieve their wants, stimulate their industry, and, not less important, dispel despondency and grief, by showing them that a general interest had been awakened in their favour, and that the present evil was not altogether beyond the reach of relief. The appropriations of money from the public purse for this humane and benevolent purpose should, for obvious reasons, be entrusted to the hands of the Roman Catholic Bishop of New Brunswick and the Pastors of the district; to be distributed at their discretion and responsibility, rendering an account of the disbursements to the Executive Government of the Province, which alone should have power to control them."

St. John, (New-Brunswick,) May 15, 1844."

HYSTERIC SPASM OF THE DIAPHRAGM. By JOHN RINGLAND, M.D. (Dublin Medical Journal.)

THE following are the results of the observations of several cases of this affection which Dr. Ringland has lately met with. That the diaphragm should be affected to a considerable extent in cases of hysteria, he remarks, need not be wondered at, when we consider that no organs sympathize more with the nervous system than those engaged in the function of respiration; but in these cases the whole of the respiratory apparatus was implicated to a degree almost incompatible with existence.

The attack commenced at night, without any premonitory symptoms whatever, with the sensation of suffocation, as though a cord was tightly constringing the throat; there was much distress experienced in attempting to swallow even the smallest quantity of saliva. There was most intense pain in the region of the stomach, passing backwards from the scrobiculus cordis towards the spine, then taking the direction of the lumbar portion of that column, it terminated in the lower part of the sacrum.

This pain was most intense in the situation of the diaphragm, and became less so as it progressed towards the sacrum. It was described by the patients themselves as though the part affected was torn with hot pincers. There was considerable pain experienced on making pressure over the lumbar vertebræ. The breathing was much laboured, requiring the patients to remain in the sitting posture, the distressing sense of suffocation rendering it impossible for them to remain in the recumbent position. The respirations were upwards of sixty in the minute; the expirations were much longer, and accompanied with less pain than the inspirations; during the latter, the ribs and clavicles were elevated to an extraordinary degree. A most distressing hiccough recurring in fits at short intervals, left the patients at times almost breathless. There was slight fulness of the abdomen, with tympanitis, but no pain on pressure, excepting when it was made upwards towards the diaphragm, and then the other symptoms became, if possible, slightly aggravated. The skin was quite natural, but the extremities were very cold. Urine was voided in larger quantity, and paler in colour than usual. Bowels always regular. Pulse not altered in any way from the healthy condition.

The administration of anodynes in combination with some of the volatile spirits (as ether, ammonia, ammoniated tincture of valerian), together with warm applications to the feet and abdomen, afforded temporary relief, but the attack recurred again in a few hours without any abatement of the symptoms. The same plan of treatment had a like effect, till at length, on the approach of morning, a deep sleep came on which lasted for several hours, and the patients awoke, free from all cause of complaint.

When the patient did not submit to a continuous treatment for several days, the attack again returned, and the same remedies had to be resumed, and with a like success. However, a permanent cure was effected by the administration of the fœtid gums, combined with the volatile spirits; anodynes on the slightest threatening of a recurrence of the attack; sinapisms to the sternum and spine; and plasters of belladonna to the loins. These measures, when steadily adhered to for seven or eight days, permanently cured the attack.

No class or condition of persons, nor habit of body, seemed exempt from its attack. Of those Dr. Ringland attended, one was a lately married female; another, a lady who was nursing her second child; another was at that period of life when the catamenia are about to present themselves; and, in the last, the menstrual function had been fully established.

Again, one of the four was in the higher rank of life; one had been reduced to considerable poverty, but was, at the period of the attack, in comfortable circumstances; while the other two belonged to the better portion of the lower rank of society. Besides this, three of the patients were extremely fat, and of middle size, whilst the fourth was tall and slight. Five cases are related at full length.

LIQUID MEDICINES. (Medical Examiner.)

IT has been found that fifteen grains of sulphate of quinine exhibited in infusion of senna, are more efficacious, as a *tonic*, notwithstanding the aperient quality of

the vehicle, than twenty-four grains of quinine taken in pills. M. Panezza accounts for this difference by supposing that the senna, by augmenting the peristaltic action of the alimentary tube, and increasing the secretions of the bowels, excites the production of a fluid well adapted for perfectly dissolving the quinine, and in that state to be applied to a much greater surface of absorption than if it passed along the canal in the form of pills. There may be something in this reasoning. Indeed we never had much confidence in quinine pills, or even steel or other tonics in that shape.

PROPHYLAXIS PTYALISMI.

ALL attempts at curing mercurial ptyalism by medicine, being now given up by universal consent, the idea of prophylaxis has struck Professor Schoeph, of PERTH. We suppose the worthy Doctor is Professor of "DENTISTRY," for the preventive check is a tooth-powder composed of alum and cinchona! We can inform Dr. S. that a far more certain Prophylaxis Ptyalismi is, the non-administration of mercury.

OBSERVATIONS ON THE TREATMENT OF ACUTE RHEUMATISM BY CINCHONA BARK. By JOHN POPHAM, M.D. (Dublin Medical Journal, September.)

THOUGH far from agreeing with Haygarth and his followers in their excessive approbation of this remedy, Dr. Popham considers it as one of too great value to be overlooked by the profession. At the commencement of the complaint, and while the symptoms were severe, the administration of the bark was attended with no good effect, but the results were different when it came in at the turn of the disease. In twelve cases of acute rheumatism in which it was given at a period varying from the fifth to the tenth day after the attack, nine were perfectly cured in less than three weeks, without relapse or loss of strength, and without those unruly pains and aches that so often survive the original attack.

The cases in which it was most successfully employed were those of fibrous rheumatism or rheumatic fever properly so called. When it appeared at all probable that either the pericardium or heart was affected, the bark was not exhibited, at least until the inflammatory symptoms were checked. In capsular rheumatism the bark seemed to disagree with the acute stages, aggravating the symptoms, but in very chronic cases it seemed of service.

The conclusions at which Dr. Popham appears inclined to arrive, with regard to the administration of this medicine, are these:

"That it is important to procure due evacuations previous to the exhibition of the bark, except the patient be greatly deteriorated by constitutional debility, or the protraction of the disease.

"That it is more *quickly* successful when the disease is *early* combated by depleting measures, than when inefficiently managed at the onset, and allowed to take root in the system.

"Hence that is more likely to extinguish the disease and prevent chronic infirmity in the sequel of *first* attacks being uncomplicated, than when a habit has been formed by reason of repeated relapses.

"That the periodicity of the symptoms either peculiar to the attack, or produced by treatment, and the duration and apyrexia of the intervals, afford strong presumptive arguments for the use of bark.

"That bark is especially called for in cases where there is complete atony of the cutaneous vessels, so that the skin is unceasingly pouring out acid colliquative sweats, giving it a dull and parboiled appearance, at the same time that the pains are abated, and the pulse small and indicating debility.

"That to produce its effects, quantity is not by any means so essential as in intermittent, and that large quantities, especially of the sulphate of quinine, derange the stomach in many cases, and bring back the fever.

"That it is judicious to administer it at the periods of remission, and stop it at the return of the exacerbations.

"That it is injurious when important visceral disease co-exists, and is especially contra-indicated in cerebral or the acute stage of cardiac complications.

"Lastly, that in the synovial variety, it is inferior to other modes of treatment; but in persons of a rheumatic diathesis, when, from the long continuance of the disease the strength has suffered, and disfiguration of the joints has occurred without serious destruction, a course of bark, combined with sulphur, &c., often prevents the recurrence of subacute attacks, and promotes the absorption of the effused synovia."

Dr. Hamilton on the Jamaica Dogwood. (Pharmaceutical Journal, Aug. 1, 1844.)

Dr. Hamilton, during a visit to the Antilles, was struck by the powerful narcotic effects on fish produced by the bark of the roots of the *Piscidia erythrina*, or *Jamaica dogwood*. Thinking that this might be of utility as a medicine, he found that the tincture, prepared by macerating the bark of the roots gathered during the period of inflorescence, and before the appearance of the leaves (the piscidia being one of the few deciduous trees indigenous within the tropics), in four times its weight by measure of *rectified* spirit for twenty-four hours, and filtering, was the only eligible mode of preparation. The following was his experiment, and its result.

"Having been for some time a martyr to the tooth-ache, which had deprived me of my natural rest, I determined to make the first trial of my new medicine upon myself; and accordingly on going to bed, mixed a dram-measure of the tincture with a rummer of cold water, and drank it off—waiting to observe its effects. Soon after receiving it into the stomach, I experienced a violent sensation of heat, which gradually increased in intensity, awakening in my mind a suspicion that the predictions of my friends, who assured me I should poison myself, were on the eve of fulfilment. However, the deed was done, and I resolved to abide the issue without flinching. The sensation of burning gradually extended itself to the surface, and while I was considering what antidote I ought to employ, a profuse diaphoresis burst out from every pore, and a sleep the most profound I ever experienced arrested me so abruptly, that I remained motionless for the whole night, with the uncorked phial in one hand and the glass out of which I had taken the dose in the other, till after the sun was high above the horizon on the following morning, a space of twelve good hours, when I first returned to consciousness, free from every pain or ache, and without any of those unpleasant sensations which invariably succeed to an overdose of opium.

"I had certainly taken a larger dose than was, perhaps, necessary; but the result was most triumphant. I afterwards employed it with equal success, as a topical application, in a number of cases of carious teeth, introducing it on a dossil of cotton into the diseased cavity; and after a single application, I never heard of a return of pain in that tooth. Wishing to compare its powers with those of opium, I took equal measures of water, containing the animalculæ of the mosquito, and having dropped into one glass as much of the tincture of opium as was necessary to make them fall motionless to the bottom, I added an equal number of drops of the dogwood tincture to the other, with a corresponding effect. I then decanted the supernatant liquor, and washed the mass of animalculæ in each glass with fresh filtered water from the dripstone; after a

few ablutions, those which had been stupified by the tincture of opium recovered, and swam about with their wonted vivacity, while all my efforts to revive those acted upon by the dogwood proved ineffectual."

Dr. Hamilton subjoins certain cautions as absolutely necessary to be kept in view. "First, the bark of the roots should be collected about the period of the full moon, in April, at which time the tree is in full flower, or coming into flower, and the leaves have not yet unfolded. Next, that the best rectified spirit alone should be used in making the tincture—the active principle of the bark being only soluble in spirit, and precipitating on the addition of water, with which it makes a milky compound. It is possible that a longer maceration than I employed might be successful in extracting more completely the active principle; but it might be desirable to divide the tincture so obtained, keeping that made during the first twenty-four hours' distinct from the second, or making a portion with twenty-four hours' maceration, and another portion with forty-eight hours' or more; and comparing, by some common test, the relative qualities of each. The following is the formula for the tincture I used:

℞ Pulveris crassi Corticis Radicis Piscidiæ Erythrinæ, ℥j.
Spiritus Vini Rectificati, fl ℥ iv.

Macera simul per horas viginti et quatuor in vasi aperto et cola. Dosis fl 3j. et infra ex haustu aquæ puræ."

SIMPLE METHOD OF PREPARING THE PILULA FERRI IODIDI. (Pharmaceutical Journal, August, 1841.)

TAKE of iodine 127 grains, iron wire, about the thickness of a thin quill, half-an-ounce, distilled water 75 minims. Agitate them briskly together in a strong ounce-phial, provided with a well-fitted glass stopper, until the froth which forms becomes white, which will happen in less than ten minutes. Pour the liquid upon two drams of finely-powdered loaf-sugar in a little mortar, and triturate immediately and briskly for a few minutes; add gradually a mixture of the following powders, viz: liquorice powder half-an-ounce, powder of gum arabic a dram and a half, and flour one dram. Divide the mass into 144 pills.

Each pill contains about a grain of iodide of iron.

In operations on the large scale, the bottle ought to be wrapped in a strong towel, in case of an explosion being caused by the evolution of steam from the heat produced; and even on the small scale, the stopper must be held firmly, otherwise it will probably be blown out and the materials lost.

THE RESPECTIVE RIGHTS OF CHEMISTS AND APOTHECARIES.

EVERY-BODY knows the jealousy felt by chemists and apothecaries, on the subject of their respective rights, privileges and encroachments. The apothecary accuses the chemist of prescribing—the chemist replies that the apothecary retails medicines. There are some observations in the Pharmaceutical Journal, of a very moderate character, which, perhaps, may be read with advantage by both parties. We must say, however, in anticipation, that the apothecary has a better *right* to retail medicines, than the chemist has to prescribe them.

"It is probable that some of our brethren, who are desirous of invading the province of medical practitioners, may cordially approve of a measure which leaves them at liberty to use their own discretion, and even to visit patients, without becoming liable to any kind of interference. But those who take this view of the subject will do well to consider, whether this unlimited license might

not be attended with some disadvantage. If the members of our body are to be allowed to encroach, *ad libitum*, on the medical department, is it likely that we can obtain any protection against the grocers, oilmen, and hucksters, who may, in their turn, feel disposed to embark in a ruinous competition in the sale of medicines? May we not also expect, that if all restraint upon quackery is to be at an end, 'doctors' shops' will rise up like mushrooms against us; and that what we lose on one side will much more than counterbalance what we gain on the other?

"While we claim a certain amount of liberty, as venders of medicines in giving our customers the requisite information respecting the properties and doses of the remedies, it may reasonably be questioned, whether we should be gainers by overstepping the boundary, and professing to act in every respect as medical men."

"But while the Apothecary sells medicine not only to his patients, but to any retail customers who present themselves, the Druggist in self-defence is obliged to overstep the bounds of his office, knowing that if he were in every trivial case to refer his customers to the Apothecary for advice, he would by so doing lose the sale of the medicine altogether. But if it were the custom for each party to perform the duty for which he is by his position and education best qualified, the patient would be better served, the prescriber and dispenser would be more adequately remunerated, and the jealousy between them would cease."

We fear that such cordial agreement is improbable. The tendency of things appears to be, that the general practitioner should grow more of a chemist—the chemist more of a general practitioner. Most young apothecaries now commence with an open shop and as much retail custom as they can procure. As they get on, the open shop, is replaced by a private one. Whichever party began the war, it is now waged actively, and is not likely to come to an end in a hurry. Should Sir James Graham's Bill pass, matters, we fancy, will grow worse.

PREPARATION OF CARBONATE OF LITHIA. (Pharmaceutical Jour. Sept. 1844.)

THIS salt has been recommended by Mr. Ure, as a solvent for stone in the bladder. Whether it will really prove so we may be allowed to doubt. The following is the mode of preparing it.

"Lithia, from which the carbonate is made, was discovered by M. Arfwedson, a Swedish chemist, in the *petalite* found at Uton, in Sweden; it also exists in the *triphane* found in the same locality. To prepare the salt, the mineral containing the lithia is first to be porphyrized, and then calcined in a platinum crucible, with five times its weight of pure nitrate of barytes. The product of the calcination is to be immersed in from fifteen to twenty times its weight of water, and hydrochloric acid added in excess, which entirely dissolves it. Evaporate the solution to dryness; treat the residue with water acidulated with hydrochloric acid, and filter to separate the silica. Into the filtered solution pour sulphuric acid in excess, to throw down the barytes; saturate the liquor, from which the sulphate of barytes has been separated, with ammonia, which throws down the alumina; and the liquor containing sulphate of lithia with some ammoniacal salts, is to be evaporated to dryness, and calcined so as to drive off the ammoniacal salts.

"The residue, which consists of sulphate of lithia, is to be treated with water, the solution filtered, concentrated, and precipitated with carbonate of soda. The precipitate should be washed with a very small quantity of water.

"Carbonate of lithia is found in solution in some mineral waters, and more especially in those of Bohemia; it is also found in some of the mineral waters

in France. We can readily understand, therefore, the cause of the advantage derived from these waters in the treatment of patients affected with gravel, as well as those troubled with calculi of the bladder."

PRINCE LOUIS BUONAPARTE'S VALERIANATES.

IF the Buonaparte family had never been employed in a worse manner than Prince Louis is now, it would have been better for mankind, though perhaps worse for them. Certainly they would never have been *Princes*, had they confined themselves to making preparations of quinine and zinc. The greatest of the name was chiefly given to *steel*.

Prince Louis, however, has communicated, in the Journal de Chimie Médicale, his methods of preparing the valerianates of quinine and zinc. Nothing is said of the medicinal properties of the salts. Those who are curious pharmaceutically, we must refer to the number of the Pharmaceutical Journal for September.

DR. HOULTON ON DIGITALIS.

DR. Houlton read a paper on Digitalis Purpurea, before the Medico-Botanical Society, which has been reported in the Pharmaceutical Journal for September, and contains some valuable suggestions. These we shall extract.

"The parts of the plant to be employed in medicine named by authors, are the root, flowers, and seeds. Should any one wish to employ the root, the rule Dr. Houlton has given on various other occasions should be borne in mind, namely, the roots of biennial plants are to be collected in the autumn or winter of the first year of their duration; this rule he has never seen in any book, but it is an absolute one. Dr. Withering mentions, that Dr. Crowley, of Cambridge, was cured empirically of hydrothorax by the root, after regular practice had failed. The leaves of this plant, like the leaves of all biennials, should be gathered in the second year of their duration, and as soon as possible after the first flowers have expanded. The plant with a purplish stem should be selected; the leaves, after removing the midrib, should be carefully dried, without the aid of artificial heat; no rule is needed for the collecting of the flowers and seeds. In a work of distinguished rank it is asserted, that as digitalis is a biennial plant, its fresh leaves may be procured at any season of the year. Now this is not from its being a biennial merely, but from the circumstance of its being a very hardy biennial. The leaves of biennial plants die in the winter; in mild winters and in sheltered situations the leaves of digitalis will remain through the winter.

"Leaves have been offered for sale as digitalis, which were those of verbascum nigrum; they have much of the general appearance of digitalis leaves, and might deceive the unwary; other species of verbascum have leaves somewhat similar to those of digitalis.

"The usual preparations of the leaf are the powder, tincture, infusion, fluid, juice and extract. Dr. Houlton thinks no others are needed than the powder and the tincture, for the more simple we keep our vegetable Pharmaceutical preparations the better. It is worth noticing the changes that have taken place in the preparations of the tincture and infusion in the present Pharmacopœia; they are both weaker than in the former Pharmacopœias. The relative strength of the two tinctures is as 8 is to 10, and that of the infusion is as $8\frac{1}{2}$ is to 21—here is a great difference; it is important to bear this in mind, when we compare the practice of authors who wrote previously to 1836 with those who have

written since. The infusion of the present Edinburgh Pharmacopœia is double the strength of that of the London. The opinions of authors as to the dose of this medicine are curiously different. The ordinary dose of the tincture, according to those who are accounted the best authorities, is from ten to forty minims. Dr. Pereira states, he has frequently given a dram of the tincture of the best quality three times a day for a fortnight, without observing any marked effect. He adds, 'I know that some practitioners employ it in much larger doses, as an ounce or half an ounce, with much less effect than might be imagined.' Dr. Pereira also states, that Mr. King, of Saxmundham, in Suffolk, gives from half an ounce to an ounce of the tincture in some cases with decided advantage; and that he, Mr. King, has given as much as two drams to a child nine months old. Mr. King lives in Suffolk, a county in which we are informed the plant does not grow. He would like to know something of the history of Mr. King's tincture. Dr. Houlton would not advise any one to try such doses, prepared after the plan proposed in this paper, that is, from the genuine purple-stalked digitalis. He has seen very unpleasant effects from ordinary doses, when continued several days, and is inclined to believe that the discrepancies amongst authors in reference to the dose of this very important remedy, arise from the want of uniformity in the preparations they employ; hence they write on different things under the same names, and discordant statements are the necessary consequence."

Destructive Consequences of the Indiscriminate Sale of Poisons.

In the last number of the Pharmaceutical Journal there are two letters on this subject, which deserve attention. One druggist writes that in the *Times* of that morning are four cases of poisoning by arsenic, three of them fatal. He protests: "that he never sells arsenic, nor substitutes any other preparation when arsenic may be asked for, as I consider this latter practice highly objectionable. Even when asked for 'fly-powder poison,' I have a great objection to supply this preparation, and frequently refuse it to the party who may ask for it, unless very well known to me. There are many other preparations which I think ought to be also denied, such as laudanum, prussic acid, sugar of lead, crow-fig, syrup of poppies, oxalic acid, and many others." This is, perhaps, going rather too far. Another Druggist, adverting to a case of poisoning by oil of bitter almonds, dwells on the careless manner in which chemists and druggists sell this article in small quantities, in a state of much greater concentration, for culinary purposes, than is safe.

He observes: "The use to which it is applied for flavouring spirit, has not only opened the door to its sale among large consumers, but any body may now-a-days obtain a little who has a mind to make his own ratafia or noyeau. The more objectionable form however to me is, the one from which the nearly fatal case alluded to above resulted, and that is the sale of the essence (as it is called) of almonds, where a few drops are directed as sufficient to flavour a pudding or custard. Now when we consider the hands into which these said essences generally come, and the careless way in which cooks are accustomed to guess at their proportions, and how little used they are to the word 'Guttatim'—I do think it would be much safer to supply the public with a more diluted article—in which spoonfuls might be used, and when the tempting flavour of the bottle, left carelessly about, would not involve anything like so much danger to those who like to have a taste of what smells so very nice."

He has known persons enter a shop for a pennyworth of morphia, colchicum being as much in demand as laudanum. This Druggist too, is in favour of the sale of poisonous substances being much more restricted than it is. All poison-

ous articles, for whatever purpose bought, should have "poison" labelled on the bottle, &c. Unfortunately some cannot read, others will not, and still more do not pay attention. The druggist is, at least, bound to caution his customers on the nature of what they are purchasing. The safest plan, no doubt, would be to refuse to sell poisons, in whatever quantity, without a knowledge of the parties, and something like a guarantee of their purposes. In large quantities poisons should only be vended with the sanction of a medical certificate.

ON THE TREATMENT OF CERTAIN AFFECTIONS OF THE NECK OF THE UTERUS BY THE ACTUAL CAUTERY. By Dr. E. LABORÉE. (L'Expérience, Août 22.)

THIS Essay consists principally of an exposition of the views and practice of M. Jobert. It appears that M. Jobert was encouraged first to practise this operation by the fact that the numerous nerves distributed to the uterus, on arriving at that part of the neck to which the vagina is attached, abandon the uterus, and are distributed to the walls of the vagina, so that the vaginal portion of the neck of the uterus is found to be destitute of nerves, as if the insertion of the vagina formed an impassable barrier.

1. *Cases in which the Actual Cautery may be had recourse to.*—With the exception of those slight ulcerations which accompany certain acute or chronic discharges, and which cease as soon as the principal affection is vanquished, and with the exception also of ulcerations of a syphilitic nature, almost all ulcerations affecting the neck of the uterus are susceptible of being attacked by the actual cautery. Thus, M. Camille Laurês enumerates amongst those cases which require cauterization, ulcerations which are exuberant or fungoid, or deep; which are complicated with bleeding, with simple hypertrophy, or with engorgement with softening or induration of the organ. Nay more, occasionally M. Jobert applies the caustic where no ulceration exists.

It not unfrequently happens that patients present an excess of volume of the neck of the uterus giving rise to numerous inconveniences, such as a state of habitual irritation of the vaginal mucous membrane—a painful pressure permanently exercised upon the rectum, for most frequently the uterus is in a state of antero-version—pain in walking—lassitude—lumbar pains, &c.

These symptoms, which frequently resist ordinary treatment, are, according to the author, promptly relieved by the application of the cautery to the neck of the uterus, and this is explained by the fact, that all the inconveniences experienced by the patient, are attributable to the excess of volume of the organ.

Another affection of the neck in which cauterization acts altogether as a specific, consists in the formation upon the surface of the organ, most frequently inside the lips, of a veritable erectile tissue, bleeding with the greatest facility on the least touch or the slightest irritation. In cases of this kind the patients soon acquire a chlorotic tint, which by degrees gives to the physiognomy that peculiar aspect so generally indicative of cancerous affections; a few cauterizations destroy the new tissue, and the constitution speedily recovers itself as soon as the exhausting cause is removed.

Finally, cancer, with or without ulceration, when it is limited to the neck of the uterus, ought especially to be treated by the actual cautery, and we, (*the author of the essay*) should not hesitate to give in every case the preference to this mode of destruction.

On the Mode of employing the Cautery.—For this purpose you employ iron rods terminating in an expanded extremity, and a speculum of ivory to protect the surrounding parts, the ivory being a bad conductor of caloric. After having

wiped off with a piece of lint the muco-pus which covers the ulcerated surface, you apply the iron, taking care that it is at a white heat, in order that it may not adhere to the parts with which it comes in contact, or, in withdrawing it, you may pull the eschar which it has made.

On the Mode of Action of the Cautery.—The first effect is, and ought to be, the production of an eschar. Care ought to be taken that the iron be at a white heat, as otherwise the disorganization is not so complete, and more irritation is produced. The colour of the eschar is grayish; its extent may be, without fear, as considerable as that of the surface of the neck of the uterus.

Generally speaking, the patient does not experience, either immediately or consecutively, the slightest re-action. The whole power of the remedy becomes concentrated and exhausted on the place on which it is applied. The patient does not feel the cauterization at the time; she will not experience any ill consequence from it afterwards. Though the patients, however, experience no sensation of burning, they do occasionally suffer real pain—this pain resulting (according to the author) from the pressure made through the medium of the insensible or vaginal portion, upon the sensible or supra-vaginal portion of the neck of the uterus, which in these cases is diseased also.

Pain is experienced from the actual operation only in two cases; viz. 1st. If, by accident, a part of the vaginal parietes has been left uncovered, and which is then burnt by radiation; 2dly, if it should be necessary to introduce the iron so deeply into the orifice of the neck as to arrive at the level of the supra-vaginal part. After the operation, the patients return to their beds as if they had only been undergoing a simple examination by the speculum. Out-patients even proceed at once to their homes. The re-action is so completely limited to the part touched, that menstruation is in no degree impeded by the operation. Several women cauterized on the evening preceding their usual monthly period, have seen the discharge appear as usual.

In eight or ten days time, the operation can be repeated, as most usually the slough has then separated. In its place is seen a lovely roseate suppurating surface, and the neck is diminished in volume. Sometimes the eschar is more slow in separating, but this is about the usual period.

After the required effect has been obtained from the operation in cases of hypertrophy of the neck, cicatrization is allowed to take place. There is nothing particular to say on the manner in which this takes place; it is completed generally in about twelve or fifteen days after the last cauterization, when the wound becomes covered with a delicate and transparent pellicule. When the operation has been performed for the purpose of destroying ulcerations, the application of the cautery ought not to be given up until the wound presents an even surface, without projections, and its aspect is reddish, uniform, and the liquid which it secretes is simply purulent.

MM. Laborie and Laurès both assert that this operation may be had recourse to without fear, as in no case has the slightest painful re-action followed the cauterization. Is it an infallible remedy? Undoubtedly not; but never, say they, can you find a more powerful remedy, and never will bistouri be able to destroy more effectively or more surely that which a healthy surgery ought not to allow to continue.

CHEILOPLASTIC OPERATION. By THOMAS D. MÜTTER, M.D. (Medical Examiner, Philadelphia.)

The lower lip, from its conspicuousness, its utility in articulation, and also in the prevention of an involuntary and incessant flow of saliva, forms a very im-

portant portion of the face. Unfortunately, it is exceedingly prone to diseases of various kinds, especially tumours and ulcers, requiring for their relief the removal of the whole, or a portion of the organ involved. It would be worse than useless to enter into a description of all the operations that have been devised to remedy its loss, but a brief sketch of the most novel and important may prove useful and interesting to those not familiar with this department of plastic surgery.

Chopart's Operation.—This operation consists in making, on each side of the diseased tissue, a perpendicular incision, which extended from the margin of the lip to a point below the base of the lower jaw. Dissecting up the flap inclosed between the incisions, he carefully removed from its upper margin all the affected tissue, either by a *transverse* or *curvilinear* cut. Then, pulling upon what remained of the flap, he brought its upper edge to the level of the margin of the natural lip, and there retained it by suture, straps, and placing the head of the patient in such a manner as to prevent all strain upon the part. This method, Dr. Mütter remarks, though apparently simple and easy of execution, does not generally answer, in consequence of the subsequent contraction of the tissue.

Horn or Roonhuysen's Operation.—If the part to be removed be small, the common V shaped incision is sufficient, and the parts may be brought together as in the operation for hare-lip; but where the mass is large, this process is sure to diminish the orifice of the mouth, and thus give rise to deformity and inconvenience. To obviate all this difficulty, it was proposed by Horn to detach the adjacent parts by free dissection from the maxillary bones, which would of course afford more material for the lip. The objection to this method is, that in many cases the orifice of the mouth is rendered so small as to be almost useless, besides presenting great deformity.

Operation of Dupuytren.—This, in ordinary cases, was nothing more than cutting away by a semi-elliptical incision all the diseased tissue. Granulations spring up from the margin of the healthy skin, occupy in part the place of the original lip, and conceal to a certain extent the deformity. It is only in mild cases, however, that such a measure could succeed.

Celsian Operation.—Having carefully removed the diseased part by a V shaped incision, proposed to divide the tissue remaining *horizontally*, carrying the cuts as far into the cheek on each side as be deemed necessary, after the manner of Horn: but, in order to take off the strain from the flaps, he made a *semilunar incision* in the cheek, just beyond the base of each. This enabled him to bring the parts together without difficulty; and the only objection to this operation is the danger of wounding the larger vessels, nerves, and ducts of the cheek, in making the semilunar incisions.

Operation of M. Serres.—If the disease, as is sometimes the case, is confined to the integuments and subjacent muscles, leaving the mucous lining of the lip sound, Serres cuts away only the affected part, and then turns the mucous membrane over the margin of what is subsequently to form the lip. A few stitches are sufficient to hold it in place, and as union by the first intention usually occurs, a very natural and useful organ may thus be made. This method, however, will only answer in cases of superficial and recent disease.

Operation of T. W. Roux.—After removing the affected tissues, and forming suitable flaps of the adjacent parts, M. Roux takes away with the saw or cutting instruments the prominent centre of the maxillary bones, so as to make room for the proper and easy adjustment of the integuments intended to replace the organ destroyed. This operation is barbarous, because unnecessarily severe.

Operation of P. Roux.—Professor Roux, determined to surpass his namesake, saws out an inch or more of the bone, and then, by drawing the lateral flaps towards each other, diminishes the breadth of that part of the face involved in the disease. Then detaching the flaps, he draws them across the opening in the bone, and the sutures which hold the soft parts are generally sufficient to hold the bones in their proper places.

Operation of Mr. Morgan.—This consists in *first* removing the entire lip by a semilunar incision, the concavity of which is uppermost; and *second*, in making an incision also curvilinear and parallel to, and about an inch or more below the first. The skin included between the two is then carefully detached, except at its extremities, and lifted into the place occupied by the diseased lip.

Operation of M. Blasius.—M. Blasius has performed a very simple operation, when the tumour was large: and, according to his statement, with decided success. After removing the diseased mass by a common V shape incision, he next divided the integuments along the base of the lower jaw by two incisions, which commenced at the entering angle of the V, and extended an inch or more in the direction specified. Lifting the flaps, he made them occupy the place of the original lips.

Operation of Dieffenbach.—This surgeon has recommended an operation apparently hazardous and severe.

"Having pared away the useless remains of the former diseased lip, or separated the cicatrized margin, a horizontal incision, about two inches long, is carried from either angle of the mouth outwards, through the cheeks, so as to throw the mouth widely open. The length of these incisions must be regulated according to the width of the mouth; or, as a general rule, the combined incisions must somewhat exceed in length the breadth of the upper lip. From the outer point of each of these, another incision is next carried obliquely downwards and towards the median line; the section in this case likewise extending through the whole thickness of the cheek. Thus by means of the first operation for paring the cicatrix, and by the succeeding horizontal and vertical incision, a flap will be prepared on either side to replace the defective lip; this flap is of a quadrangular form, and maintains a connection of more than one inch wide with the soft parts covering the tissue of the lower jaw. It may be useful further to separate the mucus membrane at its attachment to the gums to allow of the more ready traction of the flaps."

The severe injury inflicted on the facial nerve, the large arteries and veins, and possibly the parotid duct, has rendered this operation anything but popular.

Operation of Liston.—This consists in first removing the diseased mass by a horizontal and two perpendicular cuts, or by one curvilinear in shape; and, second, in detaching a flap from the chin and neck, twisting it on its pedicle, placing it in the seat of the original lip, and there retaining it by suture. After adhesion has taken place, the pedicle is divided, and a wedge-shape piece removed so as to allow the flap to be laid down smoothly. This method, it is obvious, is frequently applied to the restoration of other parts, and will answer here exceedingly well in many cases. Dr. Mütter, however, prefers the following operation, "as there is *less scar*, and less risk of sloughing of the flaps."

Dr. Mütter's Operation.—Having first removed the diseased mass by a semi-elliptical incision, two slightly curved incisions are carried from the centre of this line, downwards and outwards, to the base of the inferior maxillary bone. Then, from the terminal extremities of these incisions, two others are carried upwards and outwards along the base of the lower jaw until they reach a point

opposite the initial and terminal points of the original semilunar incision. Two quadrangular flaps are thus marked out, and immediately detached from the subjacent bone. These flaps are then raised and placed in the position originally occupied by the lower lip, and then united to each other at the mesial line, and also by their lower thirds to the triangular piece of integument, (left between the two lines which started from the centre of the semi-elliptical incision) by means of the twisted suture. By the elevation of these flaps, a raw surface is left on each side to heal by the modelling process or by granulation.

ON THE TREATMENT OF THE INFLAMMATORY AFFECTIONS OF MALARIOUS DISTRICTS. By WILLIAM M. BOLING, M.D. (American Journal of Medical Sciences.)

DR. BOLING considers that a peculiarity of the febrile excitement produced in the system by, and accompanying local inflammations in those residing in marshy districts is, that it has a tendency to assume the intermittent or remittent type, as malarious fevers not connected with local inflammations have. Another striking peculiarity about these inflammations, he continues, is the obstinacy with which they resist what is *generally considered* purely antiphlogistic treatment.

The treatment adopted by Dr. Boling consists in the administration of free doses of quinine, not indeed as the sole remedy, but combined with the use of gentle laxatives occasionally, and mild antiphlogistics. Under these remedies it appears that fewer fatal cases occurred, and convalescence was rendered less tedious, than under the usual line of treatment; at which we are the less surprised, as it appears that, according to the old system, the physicians used to "take pride in boasting of their hundred grain doses of calomel, or the number of *drastic* pills given in a dose."

The Dr. candidly confesses that he has been able to form no very satisfactory opinion as to the modus operandi of quinine; "the observations of one day generally altering or modifying the opinions predicated upon the experience of a previous day." As a general rule, however, he considers it to act as a sedative or contra-stimulant; "more certainly reducing and controlling the action of the heart and arteries than any remedy with which I am acquainted." In some cases, on the other hand, it appeared to act as a stimulant.

A great many cases are related in which quinine was administered, usually in doses of about forty-eight grains in the twenty-four hours. As in one of these cases in which the quinine was administered, apparently with benefit, it was pretty evident that malaria had no agency, the author inclines towards the end of the Essay, to alter the opinion with which he set out, viz., that it was only on patients labouring under the poisonous influence of malaria that the sedative action of the medicine was exerted, and to consider "that under any circumstances the quinine may be made to act as a sedative by merely proportioning the dose to the degree of inflammatory action going on in the system at the time."

The Dr., not wishing to ride his hobby very severely, concludes by confessing that, "as an antiphlogistic remedy in elevated and healthy localities, it (quinine) will probably never supersede the lancet, antimonials, &c., though it may, in many cases, be brought to their aid; but in malarious regions, ere long, it will generally be looked upon as the safest and most manageable contra-stimulant we possess, and at the same time one sufficiently powerful, while other agents of the same class will only be used to fulfil some casual indication, or as adjuvants to this, the principal remedy."

On an Accidental Fibrous Tissue of the Neck of the Uterus, and Parietes of the Vagina. By Dr. E. Perairs, of Bordeaux. (Gazette Médicale de Paris, Août 31.)

The distinctive character of this formation, according to the author, is, that whatever the part on which it forms, the accidental fibrous tissue presents a membranous aspect. It may assume various and very irregular forms; sometimes there are found concentric layers which envelope the neck of the uterus, and assume a capsular appearance. At other times, the membrane takes an angular form; there then appears, starting from a point perfectly distinct from the neck of the uterus, a fold which, traversing its tissue, is extended upon a portion of its surface, and forms, by the separation of the fibrillæ which compose it, an angle of varying degree; the disposition of this tissue may be compared with that which is seen in the ocular conjunctiva at the inner canthus, when it takes an angular form. Finally, the accidental fibrous tissue presents itself in the vagina in the form of separate or united bands.

With regard to the manner in which these tissues are formed, the author does not appear to be at all clear; he thinks, however, that in several cases of inflammation of the body or neck of the uterus, or of the parietes of the vagina, he has found a state of engorgement of the sub-cutaneous glands, and that this engorgement was of such a nature as to provoke a secretion somewhat resembling varnish, extending itself upon, and even beyond, the diseased parts.

If this fibrous tissue occupies a considerable surface, and has taken the capsular form, it may cause atrophy of the neck of the uterus. In other cases, where it is of less extent, it occasions changes of position in the uterus, either total or partial; it may also give rise to a modification of nutrition in the affected organ.

Treatment.—As this accidental tissue has a great tendency to contract, and become an inelastic band which impedes the free exercise of certain functions, the author considers that prompt treatment is requisite. The administration of medicines internally is of but little service; the author recommends therefore an early recourse to surgical operation. If the tissue present the capsular aspect, the membrane must be circumscribed by a simple circular incision, along its greater circumference, taking care that the incision along the neck of the uterus, and not at its implantation into the vagina, and still less on the vagina itself; the incision ought not to be of any depth. After the blood has been allowed to flow for a short time, the wound is to be touched with nitrate of silver; and some simple dressing applied. Suppuration soon becomes established, and the membrane is detached either entire, or in fragments after a short time. This operation is more complicated than when it is only necessary to incise the tissue at one point of the circumference of the neck or of the vagina. For partial adhesions of the uterus to the vagina, a straight bistouri is used to cut from without inwards, and a curved bistouri in other cases. It is necessary in all cases to respect the recto-vaginal septum behind, the vesico-vaginal septum in front. If any membranous bridles exist in the vagina, they must be destroyed either by the long scissors or by the bistouri.

Miscellanies.

RELATIVE FREQUENCY OF PULMONARY PHTHISIS.

DR. BOYD has published the following curious statistical report from the St. Marylebone Infirmary.

"From 1428 examinations, it was found that 28½ per cent. had tubercles in the lungs, nearly 2½ per cent. had tuberculous matter in the bronchial and cervical glands, and 8¾ per cent. enlarged and tuberculous mesenteric glands. Tubercle was more common among males than females.

"Of the males, nearly 36 per cent. and of the females, 21 per cent. had tubercles in the lungs; the proportion at different ages was as follows:—

	Males,	per cent.	Females,	per cent.
Under 7 years, in	147	23.83	147	14.28
From 7 to 20 "	24	29.1	32	25
From 20 to 40 "	132	58.4	112	39.3
From 40 to 60 "	180	47.8	156	25.6
From 60 upwards	203	22.1	295	15.9

"No satisfactory explanation has as yet been afforded why males should be more liable to pulmonary consumption than females; occupation alone is not sufficient to account for the great difference, as we find, from the above, the same disparity to exist even in childhood.

"*The weights of the internal organs in phthisis* were all above the average in both sexes. The disproportion was greatest in the lungs, which were nearly one-half heavier. The effect of age upon the organs seemed to be to diminish their weight.

"*The weight of the body of the male adult consumptive patient* was nearly one-third less than the average weight of the male adult in the workhouse; as the internal organs were all above the average weight, the great decrease in the weight of the body must have been in the muscular structure, tissues, and framework.

"*Height.*—The mean height of 107 male adult consumptive patients was five feet seven inches, and of 63 female consumptive patients, five feet two inches.

"The mean height of 160 female adult paupers in the workhouse, the majority from 35 to 50 years of age, was five feet and ¾ of an inch, and of 141 male adult paupers, a little more than five feet three inches.

"Hence, it appears that the consumptive females were 1¼ inch, and the consumptive males nearly four inches above the average height of other individuals belonging to the same class. It would be interesting to observe the relative height of healthy and consumptive individuals of both sexes, and of all ages, belonging to a different class, and occupying a different locality. Mr. Hutchinson, in a paper read before the Society of Arts on a pneumatic apparatus, has, from numerous observations on male adults of different classes, established a law—viz. 'for every inch of height from five feet to six, eight additional cubic inches of air at 60° are given out by a forced and full expiration.'

"Herbst found 'that adults of large stature, when breathing tranquilly, inspire and expire from 20 to 25 cubic inches; persons of smaller stature 16 or 18 cubic inches.'—(Vid. Müller's Phys. Part I, second edition, p. 313.)

"Does the rule laid down by Mr. Hutchinson, that persons, in proportion to

their height, expire a greater quantity of air, afford any explanation of the foregoing results, that tall persons are more subject to consumption than short persons, under similar circumstances, and males more liable to the diseases than females? The greater depth of the chest and consequent length of lung, together with the specific lightness of the air, facilitating its accumulation and detention in the cells at the apex of the lung, in which part tubercles are most apt to collect, and become usually first developed.

"It deserves inquiry what may be the modifications of form—what the degree of elongation in the lungs of tall persons, and whether the air inspired under such circumstances may not render them more subject to the effects of any deleterious properties mingled with that air than shorter persons similarly situated.

"Of 60 healthy children measured—30 males and 30 females—from 3 to 7 years of age in the workhouse, the average height of the males exceeded that of the females by two inches, and the liability to pulmonary tubercles among the males at that age has already been shown, from 294 observations, to be more than 9 per cent. greater than among the females of the same age.

"The difference, as may be seen, is still greater after puberty, from 20 to 60 years, the period of life at which the males are obliged from their employments to use more bodily exertion than the females, and consequently to make greater demands on their pulmonary organs.

"As age advances, and consequent inability to exertion, the difference in degree to which the two sexes are affected is less even than it was in early life.

"The results respecting the relative frequency of phthisis in the two sexes, are directly opposite to the results obtained by M. Louis at La Charité; according to the observations of that distinguished physician, the frequency of phthisis among men in relation to women, was as 72 to 95.—(*Annales d'Hygiene*, t. vi., p. 51.) The fact is interesting, because it appears probable that the relative frequency of consumption in the sexes, of subjects nearly in the same class of life, differs essentially at St. Marylebone Infirmary, London, and La Charité at Paris.—*Dublin Medical Press.*

A Medical Portrait.

Our Contemporary of the Dublin Medical Press, has drawn a portrait of the medical profession in England, which we, after forty years' experience, could not recognise, or, as Jonathan would say, *realize*. After alluding to the "comparative purity of the profession" in the Emerald Isle, "as contrasted with its condition in England," the reviewer proceeds:—"Here (Ireland) still, the body at large, of *physicians and surgeons*, is entitled to the rank of a profession—there (England) it is a trade, and, compared with other trades, not by any means the most respectable." The great body of physicians and surgeons in England will certainly be a little surprised—and not very much flattered by this information that they are only second chop tradesmen! "How can it be otherwise?" (says our polite contemporary) "into no other profession, business, or calling, in any degree entitled to be considered respectable, can a man obtain admission with less means and less general education. Whoever can scrape together about fifty pounds in the course of a few years, and can obtain his board and lodging for his work at a druggist's, while engaged in what is called his 'studies,' can, without difficulty, obtain a surgical diploma." Indeed! The Council of the College in Lincolns-inn-fields will prick up their ears at this piece of news—and even the College of Apothecaries in New Bridge Street will stare at it. It is abundantly clear that our contemporary has travelled into a country of which he is perfectly ignorant; for we cannot believe that he had wilfully and knowingly stated as

facts what every apothecary's apprentice here knows to be the merest and most ludicrous fictions.

MEDICAL EDUCATION SCHOOL.

AN establishment for the education of medical men's sons, whether designed for the medical profession or not, has been proposed by Mr. Martin, of Reigate, and warmly received by the Provincial Association. It is an admirable suggestion. Medical practitioners have often more difficulty in procuring good primary instruction for their children, than food and raiment for themselves and families. Such an establishment, therefore, would be an inestimable boon to a large portion of our hard-working brethren, especially in the country, where education is much more inaccessible than in the metropolis and large provincial cities. We think a general appeal to the whole profession, of all ranks and classes, could hardly fail of great success. Let energy, prudence, and liberality combine with strict impartiality in this great and good proposal.

IRISH MEDICAL BENEVOLENT FUND SOCIETY.

No liberal profession suffers so much from temporary loss of health as the medical. The Bishop can order a substitute to do the duty of the sick clergyman, without injury to shepherd or flock. The attorney can direct his clerk, even when he is prostrate on the bed of sickness—but the physician, surgeon, and general practitioner lose their income, the moment they are rendered incapable of personally attending to their patients! It is a wonder that some extensive association is not formed for raising a sum that may meet such melancholy contingencies. The Widows' and Orphans' Fund in London—the Provincial Association in the country—and various other local institutions, though productive of good in proportion to their means, are quite inadequate to the relief of a hundredth part of the distress that is perpetually existing in the ranks of the profession.

The Institution at the head of this article is a meritorious one. The second Report lies before us, and informs us that—

"It is not intended either to be a Benefit Society, or an Assurance Club; but, strictly speaking, a Benevolent or Charitable Institution, founded and promoted for the express purpose of assisting our professional brethren, when struggling under the pressure of disease or other calamities. It is likewise proposed, under circumstances of peculiar urgency and distress, to administer relief to the widow or family of a professional man, who may have been deprived of the support and protection of a husband or parent. While, therefore, the sole design of this Society is to hold out the hand of charity and benevolence to a suffering and afflicted brother, or his family, it will not countenance improvidence or idleness, or evil habits of any kind."

The following are the chief rules of the Society.

"1. That a Charitable Fund be created by Donations and Subscriptions of Physicians and Surgeons to be called the Medical Benevolent Fund of Ireland.*

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* "The Society will not acknowledge any one as a fit object of relief, who has not received a regular professional education, and is either a Doctor of Physic, or a Licentiate or Member of a College of Surgeons."

"2. That Contributions be received from all persons friendly to the objects of the Society, though not belonging to the profession.

"3. That the object of the Fund be the relief of Medical Men under severe and urgent distress, occasioned by sickness, accident, or any other calamity.

"4. That any Medical Man labouring under such afflictions be considered a fit object for the Charity.

"5. That the claims of Contributors shall, as far as possible, have the preference; but that contributions to the Fund give no claim of right to relief, the Fund being one of pure charity, and that each case be judged according to the urgency of the distress.

"6. That under circumstances of peculiar emergency, relief may be extended to the Widows and Orphans of Medical Men, it being understood that it is not the design of this Fund to relieve Medical Men from the necessity of providing for their families by ordinary life insurances, and such other means as prudence dictates.

"But if any provide not for his own, and specially for those of his own house, he is worse than an infidel."—1. Tim. v. 8.

"7. That the management of the Fund be conducted by Committees of the contributing members, annually appointed; the Central Committee to be at Dublin; and local committees, subordinate to the Central, in each of the principal cities and towns; the Central Committee having power to appoint local committees, wherever they may be required."

On the 22d February, a third meeting took place, Sir H. Marsh in the chair, and, from the report of the Secretary, the Association wears a thriving and prosperous appearance. The members of the profession in Ireland cannot too zealously support this young institution. We wish it every success.

NORTHAMPTON AND SHIRE.

IN an eloquent address to the Provincial Medical and Surgical Association by that distinguished Physician, Dr. Robertson, of Northampton, there are many interesting remarks on the medical topography and diseases of that inland county. The shire itself is somewhat in the form of a wedge, the thick end of which (almost the highest table-land in the kingdom) is to the westward, while it slopes away eastward towards the Fens of Lincolnshire. From its great elevation it is very unfavourable to the pulmonary apparatus, and consumption is very prevalent and fatal. The habits and employments of the people, too, are unfavourable to health. In all the towns and most of the villages, the bulk of the artisans are busied in sedentary employments—the men in making boots and shoes—the women in binding them, and making lace. They are often huddled together in confined apartments, breathing a heated and contaminated air—or rushing out into the cool atmosphere in the evening, while jaded and exhausted. The effects of such habits, too often exasperated by beastly intemperance, may be easily conceived. Glandular obstructions, tubercular deposits, visceral congestion, are the most prominent features of the diseases of the people here. The agricultural labourers escape but little more than the artisans, though their employments are so different. In them, the evil influence of cold and damp displays itself in the forms of rheumatism, dyspepsy, and disease of the heart, or acute rheumatism. Functional disorder of the stomach and organic disease of the liver are also frequent. All these Dr. R. refers to the keen air and damp. These when combined are extremely deleterious to the human frame. The subsoil of the greater part of Northamptonshire is a stiff clay that tenaciously retains the wet. The country in question is remarkably free from epidemics. Typhus, erysipelas, and the like, sometimes occur sporadically, but

are never extensively prevalent. In 1828, ague was epidemic; but in that year it prevailed all through England. In that epidemic the inhabitants of higher grounds were more frequently affected than those of the lower. This has been observed in Tropical climates, and is evidently owing to the ascent of the miasmata, and their impinging against elevations of ground.

Dr. R. introduces an eloquent eulogy on the motives which draw the Provincial Association annually together, and the good effects which result from such meetings.

"The mere fact of our assembling in this manner, for purposes partly scientific and partly social, is infallibly productive of great benefits to the profession. It brings us together; it makes us personally acquainted; it enables us to know, to appreciate, and to esteem each other. It transmutes into harmony, right feeling, and mutual regard, those jealousies, estrangements, and heart-burnings, which have been too long the reproach, I might say the disgrace, of our noble profession. The Provincial Medical and Surgical Association is thus gradually bringing about a great and salutary reform; a reform, too, for which we are not indebted to the Legislature, nor obliged to court the smiles of any Minister of State. Gentlemen, I am second to no one in my anxiety for the real improvement of our profession; which, to say nothing of its rank as a science, is unquestionably to be classed as the noblest and best of the arts. But, although the honour, dignity, and prosperity of the profession, in all its branches, are dear to my heart, and although I do not undervalue discreet and well-considered reform, I have never been what is called a keen medical reformer. I have always felt that the greatest evils of the profession are such as no legislation can reach or remedy. It may be said of us, as has been said by some one, (I forget whom, for I quote from memory,) in a more general sense:

'How many ills the race of men endure
That kings and laws can neither cause nor cure!'"*

Dr. Robertson despairs (as well he may) of uprooting quackery from the land by any penal statutes; but this is a very different thing from throwing open the practice of medicine to every pretender, without enforcing a rigid examination upon all who undertake the cure of bodies, as well as of souls.

The Orator feelingly deplores the illiberality which the members of the profession too often exhibit towards each other: here is the grand field for reform. If we do not amend our conduct among ourselves, we need expect little from the Legislature. This address from the talented and excellent writer is replete with moral sentiments that do equal honour to his head and his heart.

BIRMINGHAM ROYAL SCHOOL OF MEDICINE, &c.

BY a letter from the Rev. V. Thomas to the Rev. Dr. Warneford, we perceive, with pleasure, that an educational and subsidiary establishment is about to be added to the Medical School, by which great improvements will be introduced

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* We believe it ought to run thus:—

"Of all the varied ills that men endure,
How few are those that kings or laws can cure!"

Bad kings and bad laws (Napoleon and Cæsar for example) have *caused* innumerable evils; but they have *cured* very few of those to which human nature is liable!—*Ed.*

in the system of boarding, lodging, and private tuition, whilst the moral and religious education of the pupils will be carefully attended to. It is curious that this great desideratum should be first called into actual existence by a provincial town. The Schools of London, Edinburgh, Dublin, are all destitute of a collegiate establishment, where the health, morals, and religion of medical students might be watched over. The scattered, isolated, and uncontrolled manner in which young medical pupils live, is too often destructive to mind, body, and professional prospects in after-life.

There will be one great difficulty, however, in the formation of such a collegiate establishment, whether at Birmingham or elsewhere—RELIGIOUS CREEDS! "This, as well as all other regulations appertaining to religion, should be based upon the doctrine and discipline of the Church of England, one of whose Ministers ought to be the resident Warden or Principal of the College." Here is the difficulty! The Catholic, the Dissenter, the Israelite, who choose to study medicine, cannot avail themselves of the discipline and protection of the collegiate establishment, and must shift for themselves! This is, and is likely long to be, the great stumbling-block in the formation of colleges attached to Medical Schools. It is one over which the London "UNIVERSITY COLLEGE" itself could not get, with all its talents and ingenuity!

MALARIA—TEETOTALISM.

MR. MORRIS, who practises at Spalding, in Lincolnshire, states that from observation among the fenny and malarious parts of that country, the TEETOTALERS are more liable to suffer from malarious affections, as fever and intermittents, than those who take a moderate portion of stimulants. This is consonant with universal experience in all unhealthy climates, whether inter or extra-tropical. If, however, moderation in vinous or malt liquors be exceeded, the opposite effects are produced. The excess predisposes to malarious impressions even more than the total abstinence from stimuli. Mr. Morris illustrates his proposition by allusion to Irish labourers (Teetotalers) who come over in the Autumn, and who are apt to get ill till they break Father Mathew's pledge, and drink some English stout.

UNITY OF SENTIMENT.

OUR respected contemporary of the GAZETTE, thinks he has at length discovered unity of sentiment in the medical profession from the Pentland Frith to the Cliffs of Shanklin—from the Lizard to the Goodwin Sands—REPROBATION of the "New Medical Reform Bill." But our contemporary is rather premature. The Dublin "MEDICAL PRESS" has taken up the cudgels in favour of Sir James Graham's "free trade in physic," and Dr. J. Davies, of Hertford, has stept into the field, as a valiant Lieutenant to the Hero of the Green Isle. With the latter advocate of things as they are to be, we shall not meddle; and with the columns of Dr. Davies in the Provincial Press, we shall not occupy much space. The gist of the Doctor's arguments lies chiefly in this fact—that legal restrictions, pains and penalties have not, hitherto, been found equal to the eradication of quackery—and, ergo, such pains and penalties should be erased from the Statute-book, as disgraceful to modern freedom in trade. All that we shall say in answer to this is—that as the pains and penalties—including a swing on "Tyburn tree"—which have been enacted against MURDER, have not, hitherto, erased that foul crime from the long lists of our criminal calendars—ergo, all punishments for such offence should be sponged away from our legal tablets!

Did it never occur to our sapient doctor, that although crimes cannot be completely eradicated by human or even Divine laws, they may be checked and lessened by them; and that, at all events, they ought to be held up to general reprobation by penalties, however inadequate to their entire prevention?

But it is not open undisguised quackery alone that should come under the operation of legal enactments. Sir James Graham's "voluntary system" of examination and registration will let in a flood of half-educated practitioners, who will do more harm to the practice of physic and surgery than all the quacks of the land. This is THE evil of the contemplated measure!

DR. DALTON.

IT is an old and trite remark, that the lives of literary, scientific, and philosophic men seldom present such important epochs and events in their mortal career as to greatly interest the general mass of mankind. The Nelsons, the Napoleons, the Wellingtons, whose genius or talents decided the fate of battles, or even of nations, are the grand subjects for popular biography, and their eventful lives are sure to fix the attention of all readers.

The late Dr. Dalton, of Manchester, the father of our chemical philosophers of modern times, occupied no small space in the scientific world, and has recently paid the debt of Nature, at the mature age of 78 years. He was born at Cockermouth in September, 1766, and little is known of his early history, except that he was fond of mathematics. Between 1784 and 94, his name appears as a frequent contributor to the Gentleman's and the Lady's Diary. In 1788 he commenced his meteorological observations, which were continued to the day of his death. In 1799, Dalton began to teach mathemathics and natural philosophy. A small circuit round his laboratory, in George Street, appears to have been the limits of his peregrinations for many many years. The Memoirs of the Literary and Philosophical Society of Manchester have presented almost unbroken records of Dr. Dalton's labours till nearly the close of author and books. The greatest of his discoveries was the atomic theory—1803. His whole life seems to have been spent in teaching chemistry; but the longest life will come to an end. In April, 1837, Dr. Dalton experienced an attack of paralysis, which deprived him of the use of one side, and also, for a time, of speech. After this, he had repeated attacks, together with other illnesses, which greatly impaired his physical strength and intellectual energy. On Saturday, the 26th July, he appeared in his usual health, but in the night breathed his last, without a struggle or a groan! The Manchester Guardian says:—"Science has lost one of its most devoted sons—England, one of its greatest savans—and humanity, one of its brightest living examples of the wisdom of the philosopher, united with the purity and simplicity of the child."

FREE TRADE.

IF Ministers have been unable or unwilling to throw open a free trade in Corn, they seem determined to do it in Physic! The MILLENNIUM MEDICUM is fast approaching. In the year of grace, 1845, *unlawful* medical practice will cease throughout Great Britain. In that year all *preventive* checks on the noble art and science of medicine and surgery will vanish into air—thin air! We do not allude exclusively to *Charlatans*. They have always been respected by the community at large in this country, and are now to be under the especial patronage of the Legislature. But we look to the half, or the uneducated me-

dical practitioner, who will be able to open shop in New Bridge Street, Blackfriars, under the very nose of the worshipfuls, and prescribe and dispense medicine without let or hindrance! But Sir James Graham tells us there is to be a *penalty* on unlicensed practitioners. It is certainly an Irish one. Such practitioners are not to be *rewarded* for their ignorance or want of diploma! They are not to be promoted to places of rank or emolument. They will not be eligible (they are not so now) to appointments in Hospitals, the Army, the Navy, &c. Why no. They would take good care to decline such appointments were they offered to them. They covet no such theatres for the display of their abilities. They will be perfectly content with the liberty of starting in every street of the metropolis, or of provincial towns, to practise medicine, surgery, midwifery, and pharmacy, quietly, *legally*, and lucratively, without any disturbance from the beadles of a College, or the solicitors of a trading company. The Home Secretary tells us that the great principle of his Bill is to encourage rather than repress—to offer rewards for knowledge rather than impose penalties on ignorance. Very fine words; but the effect will be just the reverse. The working of the Bill will tend to foster ignorance and effrontery—to depress skill, learning, and science. It is hesitatingly proposed to deprive the unregistered practitioner of the power of recovering charges in a court of law. What cares the quack or the ignoramus for this? Do we ever see the Charlatan go to law for the recovery of his medical debts? Never. Nor is this boon of any use to the regular practitioner. He ought never to go to law with his patient. He will lose ten times more than he will gain by such a procedure. And, after all, can any physician in Great Britain recover a fee? Not one; and physicians thrive as well as other classes of their brethren.

The grand feature, or principle, if you will, of this Reform Bill is, to give every man the free and legal power to practise medicine, in its most comprehensive sense, whether qualified or not—and, at the same time, offer to the public full scope and liberty to employ the unlicensed practitioner, if it pleases, in preference to the qualified and registered. It is very true that the public cannot be prohibited from consulting quacks and risking their lives; but this is no reason why quackery should be encouraged by Government, and all restraint on its operations taken off. We cannot prevent a man from purchasing poison and destroying his own life by it; but we can punish a man for vending that poison incautiously, and thus facilitating the act of suicide. This is the plague-spot on the new Bill; for the centralization of power in the COUNCIL of HEALTH, and the equalization of education, fees, and rights of the different colleges, are decided improvements on the old and heterogeneous system of legislation.

"Adversity makes us acquainted with strange bed-fellows." It is not a little curious to observe that the Worshipful Company of Apothecaries, which has been nick-named, scorned, and scandalized for twenty years past by the ultra-reformers, has, all at once, found favour in the sight of their enemies, who have suddenly discovered virtues and merits in the "hags of Rhubarb Hall," which never radiated on their optics till the new Reform Bill made its appearance!! The said Reformers see at last that the "old hags" have done great good in their day, and that they are now most shamefully treated by the Government. They, therefore, hold out the hand of good-fellowship to the "Weird Sisters" of Blackfriars, and offer to stand by them till the death, in resistance to that odious and cruel tyrant—the GRÆME MACBETH!

So then, the Medical Agitators in this Country have had little more success than the Repeal Agitators in the Green Isle. The latter had got a comfortable "LOCUS PENITENTIÆ" on the banks of the Liffey, while the former are granted a TEMPUS PENITENTIÆ of some ten or twelve months, during which they may chew the cud of disappointment at leisure! After a twenty years' struggle for a representative, or rather a federal government—a great tripartite

faculty—a triple-headed Cerberus to watch the interests of the three branches of the profession—we are to have a great hydra-headed monster, appointed, not elected—and armed with powers over which we shall have no control. We were dissatisfied with King Log—and now we shall have King STORK! When we cast a retrospective glance at the juvenile days of Medical Reform, and remember the thrilling harangues of a Lawrence and a Wakley in Freemasons' Hall, we cannot contemplate the present scene—the sad result of all their exertions, without exclaiming in the words of the immortal Bard—

> ——————————— though far away
> Each flower that hail'd the dawning of the day,
> Yet o'er her wither'd HOPES that once were dear,
> The time-taught spirit, pensive not severe,
> With many a tear her aged eyes shall fill,
> And mourn their falsehood, though she love them still!

It is clear that the HOME SECRETARY has based his Medical Reform Bill on the new system in Hanwell, where all pains and penalties are abolished, and every thing is to be done by coaxing and kindness. He, no doubt, views quackery itself as a species of refined philantrophy, where the good of the public—the salus populi—is alone considered, and no regard paid to private pelf. Who would be so ungenerous as to suppose that Morrison recommended his pills for any other purpose than to save the lives of thousands, and that without the slightest view towards the accumulation of wealth? Under the new system, the Morrisons and the Longs will be no longer harassed by law-suits or trials at the Old Bailey. The prospect of a professorship in one of the colleges or hospitals will be quite sufficient to discourage or suppress the most inveterate quackery!

That one supreme or ruling Body should exist in the metropolis for regulating the affairs of the profession, and equalizing the various licensing colleges and corporations throughout the empire, no reasonable man can deny; but the *composition* of that Council requires great care. The *ex-officio* members are, doubtless, good men, but we fear that interest more than merit will operate in the appointments by the Crown.

And yet a few strokes of the pen—one or two clauses added—and two or three struck out, might render this stigmatized Bill as good as we can, under all circumstances, hope to obtain. In the words of Goldsmith, it might be said of this enactment, that—

> "It has but one fault—but that is a thumper."

A clause rendering the registry (after proper examination) imperative, not optional—and imposing a penalty on all those who practise without that registration, would make the Bill very useful. With such clause the mock incentives of hospitals, public appointments, &c. &c. may be struck out, or left to find their own level, among clashing interests and the struggles of competition.

INFLUENCE OF LOCALITY ON DISEASE.

DR. RUMSEY, of Henly-on-Thames, has called the attention of the profession [*Prov. Med. Journal*] to the peculiar salubrity of BEACONSFIELD, near High Wycomb Bucks, which, if his representation be correct, would appear likely to prove the Montpellier of England. Dr. R. is of opinion that a "noxious and unsuspected element lurks in our soil," whose solution in the waters poisons the blood, and affects various organs of the body. He thinks that this poison prevails much more in some places than in others. Our author has long

believed that BEACONSFIELD is distinguished for the salubrity of its air and water far beyond other neighbouring towns and villages. Yet the elevation is not great—the soil is none of the driest—and the temperature of the air is far from warm. Nevertheless, this hill is exempt from several diseases that prevail in other and apparently more favoured localities.

"In the numerous surrounding towns, which are for the most part situated in valleys, some wide, and open, others comparatively narrow and contracted, bordered by hills of chalk, with superincumbent gravel, clay, or sand, yet of drier soil and houses than Beaconsfield, I have met with much more articular and glandular disease. More persons by far are the victims of pulmonary consumption; the stiff and useless joint, and cripple, are seen with much more frequency; the goitre is met with at every town; calculus of the bladder has been seen in most, if not in all of the other towns and villages of the neighbourhood, and that of the kidney is very common; whereas, the former of these, calculus of the bladder, I have every reason to believe, from the authentic source of my father's long and extensive experience in this vicinity, and my own opportunities of observation, has not been seen at Beaconsfield in a single instance for more than half a century, and possibly never to have arisen there; and the latter gravel, is only exhibited by a rare exception in the corpulent, the bed-ridden, and the sufferer with disorganized kidney.

"The goitre itself may be said to be unknown in this town, though not three miles from one of its favourite localities, and absolutely surrounded by districts fruitful in its production.

"Other painful affections, incident to the young female, yield to the same law of comparative exemption in this favoured elevation, and my conjecture is, that these advantages do not complete the whole catalogue which belong to this town's distinguished geological position."

"I have witnessed the spontaneous cure of diseases on a change of abode to this hill, which usually under other circumstances, make a very different progress. Dysmenorrhœa has been removed; bronchocele has disappeared; attacks of gravel have permanently and spontaneously ceased; and, in one instance, the gradual, yet speedy, total and permanent cessation to cough up chalk stones, followed a residence at Beaconsfield, the native and previous abode of the patient having been one of the surrounding localities, more fertile in disease."

Medical topography is an interesting and valuable study. It is a pity that such investigations are not more frequently pursued than they are. Dr. Rumsey has related some curious cases illustrating the prophylactic and sanative influence of Beaconsfield, which we recommend to the attention of our medical brethren in that vicinity.

KINGDOM OF SHOA.

IT appears that England has an embassy at the capital of this small kingdom in Abyssinia, situated near the Straits of Babel-Mandel, and whose medical topography has been drawn up and published by the Surgeon to the Embassy, Rupert Kirk, Esq. in the Bombay Medical and Physical Transactions. The territory lies between eight and ten degrees of North latitude, and 38 to 40 East longitude. It consists of two table-lands—the lower, 2500 feet above the level of the sea—and the upper rising from eight to ten thousand feet. The climate of this region is highly-favoured. ANKOBER is the capital—the residence of the Embassy—and containing some ten or twelve thousand inhabitants. The upper plain possesses a pure and buoyant air, and though close to the Equator, the tropical temperature is greatly reduced by the elevation of the soil. The

thermometer ranges from 70 to 75 in the day, while the nights are chilly, and thin pellicles of ice are occasionally seen in the colder months. The mean annual temperature of Ankober is 55½—three degrees lower than that of the Neilgherries on the coast of Malabar.

"Perhaps there is no kingdom which possesses a greater variety of climate within its limits than Shoa. Leaving the parched plains of the Adiel on which is felt the fierce heat of tropical Africa, a journey of eight miles brings the traveller to Farri, 3000 feet above the sea, and possessing the genial warmth of an Indian province; proceeding onwards twelve miles, he reaches Alioamba, which with an elevation of 5000 feet, enjoys a mild, Italian sky; from whence ascending the Ankober mountain, a ride of but five miles, he gains a height of 8000 feet, and a climate only to be compared to an English spring, whose coldness may be judged from the fact, that fires are needed in the house morning and evening throughout the year."

This being the case, we should not be surprised to find Shoa become a SANATORIUM for our tropical invalids, dividing the spoil with Neilgherry and the Himalayas. The population of Shoa is calculated at about two and a half millions, of whom one million may be considered as Abyssinian Christians—the others are chiefly Mahomedan. The Christians are tall, stout, and well-formed, and varying in height from 5 feet 7, to 5 feet 9 inches—some of them are upwards of six feet. Their colour varies from brownish olive to the clear black of the Negro. The most common colour, however, is a coppery brown, with a tinge of black.

The food of the Abyssinians is chiefly farinaceous, and the meals, as in India, taken about sun-rise and sun-set. Their drink is a kind of mead, prepared from honey and corn, and also tulla or beer brewed from barley. It appears that these people are subject to almost as many diseases as our polished and civilized nations, as the list of maladies, for which Mr. Kirk was consulted, will show. Three hundred and seventeen syphilitic cases, among others, were treated by our author! The tænia solium is also very prevalent. Very few of the natives are free from it. They attribute it to the eating of brindo, or raw flesh. Fortunately the flowers of the Kosse, a tree common in Abyssinia, are an effectual remedy for the worm. It is taken regularly every two months by the inhabitants. Its operation often produces prolapsus ani—being a drastric purgative. Scrofula is very common among the females, as also bronchocele;—fever, though formidable, is chiefly prevalent among the low and fertile valleys, where water is abundant. Epilepsy, and other nervous affections, are sufficiently common. There are no professed doctors—medicine being strictly domestic. All ranks attempt to secure themselves against diseases by amulets or charms—and these are probably as successful as the articles in the family medicine-chest among ourselves! "Should a person be attacked with fever, the head of a red cock is sometimes cut off, with certain rites and formalities, and its blood is sprinkled on a road, when they believe that the disease will be transferred to the first person who crosses the infected spot." This is a very generous and disinterested practice! Surgery is on pretty much the same level as physic, which is not saying much for that science.

AMERICAN NOTES.

MANY persons in this country are calling on the Legislature to put down quackery by law. Whether law could succeed in doing so, we will not stop to ask. The lawgivers of Alabama once thought it would, so they went to work in earnest. Their success would not seem to be encouraging, for we read in a Journal of the West:—

"Alabama has long had a law denying to those who practise medicine without a diploma or a license, the benefit of her courts in the collection of their debts. We do not suppose it has done any more good in this than in other states; but still it served as a theoretical expression in favour of science. Lately, however, it has been so modified as not to interfere with 'any persons' who practise on the 'botanical system of *doctor* S. Thompson;' provided, nevertheless, that they 'do not bleed, apply a blister of Spanish flies, administer calomel, or any of the mercurial preparations, antimony, arsenic, tartar-emetic, opium or laudanum!' It would be difficult to say whether *doctor* Thompson's patent, or this law, is the more precious specimen of empyricism. It is marvellous, that a people so enlightened as those of Alabama, should allow their statute book to be made ridiculous by such nonsense."

It is pretty clear that the enlightened folks of Alabama got sick of being doctored only by the faculty. They tried it, but it did not suit them, and so Doctor Thompson turning up with his botanical system, they made an exception in favour of *him*. By and by, Dr. Thompson and the botanical system too, will be found or fancied a delusion, and some one else with a wet system, or a dry system, or some system of some sort, will be taken up in his turn. And this is the history of the human mind, whether in the old world or in the new, in the aristocratic halls of London or the forests of the bowie country. When legislators can be found who are not to be caught by quackery or quacks, then we may think of law, but not before.

MESMERISM IN THE FAR WEST.

We all know how very scientific men have taken up Mesmerism here. This grand discovery has been accepted by the titled and the scientific, and it cannot be said that a deaf ear has been turned to its marvellous tales by the choice spirits of the land. The Marquis of Anglesea has smiled upon it, Doctor Elliotson has lectured on it, and half the aristocracy have half believed it. We are not then altogether a nation of infidels, and faith has a resting-place amongst us. But in Alabama, Mesmerism has grown downright vulgar. It is positively low.

"Alabama is not more thoroughly overrun with the disciples of *doctor* Thompson, than those of Dr. Mesmer. Anxious to have the phenomena of Mesmerism subjected to a rigid examination, the true separated from the false, and the public mind kept in a healthy condition in reference to both, we cannot but regret to see one travelling mountebank after another, traversing the south-west, for the purpose of extracting money from those who are credulous enough to believe, that *he* can do any thing in which men of sense will confide. It is truly unfortunate for Mesmerism that it should have fallen into such hands. Things are coming to that kind of pass, that we shall soon not be able to distinguish the pass of an impostor from the pass of a scientific Mesmerizer, and, in discouragement, pass the whole by; not even making it a pastime of a passable kind, as it was in days past; and when this happens, there is great danger that it will be passed over, and fall into a somnambulic state, from which the passes of the most scientific hand may not awaken it, till the remembrance of what is now doing to degrade it has past away."

We do not know if all these not very passable puns are meant for Mesmerism or the Mesmerizers. But however that may be, one does not like to see a science so exalted get into such low hands. We dare say the fellows Mesmerize for

half a crown. Just conceive somnambulism, reading with one's back, the gift of prophecy and so forth, disposed of for the small charge of two shillings and sixpence. It is quite distressing. Oh! Dr. Elliotson, what *are* you about? We hear of missions to China. We would suggest to the Doctor to get up one for the poor deluded people of Alabama.

CAPITAL NEWS FOR YOUNG DOCTORS.

We really cannot wait to talk about the matter, but communicate the following "important news" to our young friends. *Won't* there be a rush to Alabama!

"In the north and west every village has its old doctor—generally quite a respectable personage, with several peculiarities, and the self-complacency which comes from a life of usefulness, winding up amidst the regard of the neighbourhood, and the respect of the younger physicians, who surround him. A sage of this kind is almost unknown in the south-west, except by title, which often indicates about as much clinical labour, as that of colonel testifies to military achievement. The reason of this difference between the south-west and the more northern portions of the Union, is threefold:—1st. A great many physicians die young; 2d. A number go to cotton-planting; 3d. Not a few marry rich widows. Thus it is that causes the most opposite conspire to deprive this quarter of the benefits of ripe medical experience. How long the first will continue with its past energy, we cannot predict; but the second will soon cease unless the price of cotton should rise above five cents a pound; the last, however, is of a permanent character, for six or eight times as many husbands as wives die in this region. We shall expect the thanks of at least two classes of persons for this information."

We should think so. What a good fellow this Editor is. And a close reasoner too. What, for instance, can be more certain than that if doctors die young they won't live to be old. They should work double tides in Alabama. For, first of all, they have the chance of dying young as Doctors, and, secondly, if they are not thick enough to do that, they have another chance of dying young as cotton-planters. Nay, when they marry they are pretty certain to die before their wives at last. They thus realize the somewhat groggy idea of Alexander, who, in his cups, "thrice slew the slain." The great requisite for emigrants to Alabama is to have the lives of a cat.

DEATH IN THE FIRE-PLACE.

MOST people recollect the alarming work of the respected Mr. Accum—"Death in the Pot." Such as read it must have wondered how they ever contrived to live so long, indeed to live at all, every article of food being proved to be deleterious.

Now, however, the matter is shown to be worse than even Mr. Accum made it out. Not only are we eating and drinking slow poison, but the air we breathe in our bed-rooms and sitting-rooms is next to certain death. An ingenious writer in the Medical Gazette puts this in such a striking point of view, that the firmest nerves must be shaken by it.

"It should be borne in mind," says he, "that the openings of our fire-places being seldom more than three or four feet from the floor, the upper stratum of air is neither removed nor purified by this under current, and must, from being breathed over and over again, be productive of most prejudicial effects, and that this contamination of the atmosphere is considerably augmented at night by the combustion of lights, the quantity of air breathed by an ordinary-sized person being calculated to be about 2000 cubic feet per hour, and that two mould-candles consume as much of the oxygen of this air as a human being, the nitrogen and carbonic acid gas which remain being peculiarly inimical to animal life, and that when carried up by the currents occasioned by combustion and respiration, they must be repeatedly inspired in this upper stratum before they make their escape

into the chimney—the only ventilating flue with which our houses are provided; that the heat thus generated is in proportion to the quantity of oxygen abstracted from the atmosphere, which enters into combination with the carburetted hydrogen of the flame of candles, coal, gas, oil, or other inflammable matter from which light is produced; that every cubic foot of carburetted hydrogen consumed unites, on an average, with two cubic feet of oxygen (that portion of the atmosphere required to support animal life); and that the product of this combustion is about two inches and a half of water and one of carbonic acid gas, which, when inhaled in its pure state, proves instantly fatal; and the greater the proportion we inhale in addition to the animal vapours evolved from the lungs and skin, the more pernicious the effect.

"Supposing, for example, that the perfect lighting of an ordinary sized apartment requires fifteen cubic feet of carburetted hydrogen per hour, this would form about a pint and a half of water and fifteen cubic feet of carbonic acid gas, which are the products of the combustion, whether the carburetted hydrogen is obtained from wax, tallow, oil, or coal. If, therefore, the lighting continues in an unventilated apartment for seven hours, one gallon of water is produced, the greater part of which must be deposited on the walls, windows, furniture, polished metal, or other cold surfaces with which it comes in contact; and to some articles of this nature it is known to prove highly prejudicial, in addition to the injury to health occasioned by an increased quantity of moisture mixed with the air we breathe. As one of the principal functions performed by this air for the preservation of health is to carry off with it a considerable quantity of vapour, in order to prevent its undue accumulation on the lungs, it is therefore evident that after it has been already so loaded it cannot properly perform these functions, and that consumption and other complaints are thus frequently induced."

We can only say, as we have said before, that the wonder is how we get on at all. With nothing genuine to eat—only deleterious mixtures to drink—and nitrogen, carbonic acid, and carburetted hydrogen to breathe, it is next to a miracle that any of us see forty. One reflection, however, springs out of this, which is a comfortable one—if we contrive to hold on to sixty, seventy, and eighty years, in the midst of such deadly agencies, what may we not hope to do by and by—when, thanks to chemistry, death is no longer in the pot nor in the fireplace—when bread and beer cease to be adulterated—when candles no longer furnish arsenic—when our rooms are not filled with nitrogen, carbonic acid, and so forth. The age of Old Parr will then be the rule, not the exception, and the stunted race which now haunts our streets like melancholy ghosts, will be changed, under the influence of pure air and aliment, into something more like to men. The sooner the better, say we.

SCALP-SETON.

THIS remedial agent, in cerebral affections, is now "going the round of the press," to use a common expression. Dr. J. Johnson has, for more than thirty years, been in the habit of employing this species of drain in epileptic and other cerebral maladies, and has repeatedly noticed it in the pages of the Medico-Chirurgical Review. Dr. Johnson's method is more simple, and less painful than that which has lately been proposed. It consists merely in drawing a line of the kali purum along the course of the sagittal suture,—poulticing till the slough clears away—and then inserting a few threads of silk or cotton daily, imbued with the ceratum lyttæ. A purulent drain is thus established, with very little trouble, and with great benefit in obstinate cerebral affections. Mr. J. Johnson, of Rickmansworth, wore a seton of this kind for some years, under Dr. Johnson's direction.—*30th September*, 1844.

ABDOMINAL HYDATIDS. (Ed. Monthly Journal, August.)

"DR. GAIRDNER read a remarkable case of abdominal disease, in which he had twice withdrawn by paracentesis from the peritoneal cavity, a quantity of a glutinous substance, resembling in colour and consistence calf's foot jelly, and coagulating, like the albumen of eggs, by heat. Some of this matter, Dr. G. had exhibited to the Society in January, but in a comminuted state, in consequence of having passed through the canula, and the valves of the syringe adapted to it for suction. After the death of the patient in February last, it was ascertained that the whole abdomen was filled with similar matter, amounting in all to about twenty-four imperial pints, and that it consisted of rounded masses having very much the same outward appearance as the ordinary acephalocysts of Laennec, but differing from them in many important particulars. These remarkable parasites had invaded the textures of the liver and omentum, as well as of some of the other viscera. The right lobe of the liver was entirely destroyed by them; the left partially; the omentum converted into a dense and almost cartilaginous tumour, of large size and great thickness, in which many of the parasites were contained, and from which many of them hung pendulous. Dr. G., after detailing the facts of the case, gave a condensed account of the results of his inquiries into the literature of the subject. He found that extensive destruction of the liver by hydatids was by no means uncommon, and that there were one or two recorded cases, and more especially a very remarkable one by Ruysch, in which the destruction of this organ appeared to have been equally extensive as in his own case. He had not been successful in finding any case in which the omentum had undergone a change of the same sort precisely with that which he had described. Finally, he had examined attentively all the systematic treatises on entozoa in general, or on hydatids in particular, which were accessible to him, besides a great number of pathological works and individual cases in which they were incidentally described, and he had not yet found a single description of a parasite possessing the same physiological and structural peculiarities. He was therefore of opinion, that it was a rare one; and that, although it had in all probability been occasionally seen, its peculiarities had not yet been observed or described."

Examination of the above Entozoon.—"Mr. Goodsir read to the Society an account of the structural and physiological peculiarities of the entozoon found in Dr. Gairdner's case, by Mr. Henry D. S. Goodsir. Mr. Goodsir, after quoting from his brother's paper, read to the Royal Society a description of the animal in question, explaining more particularly the structure of the parasite,—stated as its most distinctive peculiarity the fact, that instead of being like the common acephalocyst, a simple animal, it might be regarded as being of a composite nature. It appeared to consist of several cells, having in their interior a glutinous matter contained in cellular tissue, connected together by a common membrane, extending from the free surface of the peritoneum over the surface of the various cysts, and forming their pedicles. On the surface of this membrane, except on the part covering the globular cysts, there were seen numerous circular discs, around the margin of which were a series of stomata opening into tubes extending into the substance of the membrane. These Mr. Henry Goodsir regarded as being the nutritive organs of the animal. With regard to its reproduction, Mr. Goodsir remarked, that this took place in two ways, one which respected the extension of the individual existing group, the other as regarded the propagation of the animal to uninfected tissues. This, like the common hydatid, did not enlarge from cellular development, but by simple expansion of the original germinal vesicle. As regards its propagation to uninfected tissues, Mr. Goodsir stated, that he had been unable to trace the earlier process by which an ovum appeared in the healthy tissue; but he found that, when this had

occurred, the ovum enlarging makes its way like an abscess to the free surface of the organ, and bursts, leaving an orifice leading into a cavity of the tissue. The formation of these cavities gave to the peritoneum the honey-comb appearance, observable in Dr. Gairdner's preparations. After the bursting of the sac, the animal is not discharged from the cavity, but remains attached by its common membrane to the base of the cavity, and then projects outwards, elongating its outer membrane so as to form a pedicle."

UTERINE DISEASES.

FROM practical paper read before the Edinburgh Medico-Chirurgical Society lately, by Professor Simpson, on mechanical dilatation of the os and cervix uteri, we extract the following passage:—"Lastly, Dr. Simpson offered some observations on the introduction of the sponge tent into the os of the pregnant uterus, in certain conditions in connection with abortion, and as a means of inducing premature labour. When abortion was inevitable, and the hæmorrhage great, a small expanding sponge tent passed into the os uteri was more effectual than a large vaginal plug. It at the same time opened up the os uteri, so as to allow of the more easy escape of the contents, whilst uterine contractions were, in most instances, ultimately induced by its presence. For the same reasons it was often a valuable means of both opening up the os uteri, and exciting the necessary degree of uterine action in those occasionally perplexing cases, where, in abortion, the embryo escapes, but the secundines are long retained. Dr. S. had employed the same simple means in inducing premature labour, and spoke of the advantages of it in comparison with the various other measures that had been proposed for that object. He found that the tent, when made and introduced in the mode already stated, required no vaginal plug, or other means, to hold it *in situ*. By its use the first stage of labour, or the dilatation of the os uteri, could, in a great degree, be advanced, before the labour itself actually began.—*Dr. Cormack's Journal, Aug.* 1844.

MALARIA.

A REVIEWER of Dr. M'William's "MEDICAL HISTORY OF THE NIGER EXPEDITION," in the Athenæum, having doubted the existence of Malaria, attributing what are called malarious diseases to other causes, as the "ordinary accidents of climate, heat, and humidity," Dr. M'W. combats the Reviewer's scepticism by a paper in the same journal, for 21st September, 1844.

We suspect that the reviewer had never practised in a tropical or in any malarious climate, else he would not have considered miasmata, malaria, marsh effluvia, or whatever name we may give the poison, as a creature of the imagination. The following quotation from Dr. M'William's "reclamation," must be satisfactory to most of our readers, though ten thousand other instances and facts equally stringent might be adduced in proof of a morbific emanation from certain soils, exclusive of heat and moisture.

"Heat and moisture are conditions of the atmosphere which readily admit of minute quantitative determination, by methods in common use: and if fever were caused by them alone, in Europeans within the tropics, it should prevail wherever their amount is the same. Now, by reference to the meteorological tables in my work, the temperature and dew point outside the Niger, where no fever occurred, and while in the rivers, were as follows:

	Temp. 3 P.M.	Dew point. 3 P.M.
Passage from Sierra Leone to Accra . .	81.13	74.93
Outside Niger from 9th to 12th August . .	79.00	73.70
In the Nun and ascending to Aboh . .	80.60	74.00
At Aboh, Idduh, and the confluence of the Niger and Tehadda to Sept. 21	84.00	73.50
Confluence of Niger and Tehadda to Egga .	86.60	72.00

"Thus, though the expedition was exposed from the 1st of July to the beginning of August, to air containing more moisture, and but little inferior in temperature at the hottest part of the day, to any experienced within the river, not a case of fever made its appearance until the 4th of September, three weeks after it had entered the river, and had been exposed to the emanations from the ordinarily recognised sources of malaria. Similar results have been observed elsewhere; in Barbadoes, for instance, no fever occurred among the troops in the garrison during August, September, or October, 1841, and although in November a very violent description of yellow fever broke out, the temperature of the air was lower than in August, and the dew point lower than in September; their means were as follows:—

	Temp. 3 P.M.	Dew point, 3 P.M.
August . . .	83.77	70.61
September . . .	82.13	73.78
October . . .	82.31	72.67
November . . .	82.83	71.67

"Hence the connexion between 'heat and humidity' of the atmosphere and severe remittent, or yellow fever, is by no means so clear as the reviewer would have us suppose. It is, in fact, one of those hasty conclusions which will not stand the test of comparison with observed facts, and could only have been made with a limited view of the history of disease in warm climates.

"At Barbadoes the fever was almost completely confined to one of the regiments composing the garrison, while the other, the men of which were equally exposed to 'heat and humidity,' and performed the same duties with their neighbours, was almost wholly exempt. The cause of the disease in this instance, was very obviously the effluvia arising from a pool of water, immediately to windward of the building occupied by the regiment that suffered.

"But to return to the west coast of Africa. In 1836, H. M. S. *Scout*, under the command of Capt. Robert Craigie, proceeded to the west coast; and by a careful observance of the stringent 'General Orders' of the senior officer on the station, 'that no ship was ever to remain in port more than forty-eight hours at any one time,' and that officers were so far as was practicable to avoid entering any of the rivers on the coast,' only two cases of fever occurred in her during the first year, and these were traced to two days' stay as Sierra Leone. In the month of April, 1837, Capt. Craigie was obliged to ascend the Bonny river, in the *Scout*, as far as King Peppel's town, for the protection of the British mercantile interests there. On this occasion he also took the *Dolphin*, a brigantine, with him, and left the *Lynx*, another brigantine, anchored at the river's mouth. The *Scout* and *Dolphin* were detained nearly a week at Bonny town, and on leaving the river, fever broke out in both vessels, and their united loss by death amounted to five officers and seventeen men and boys, while on board the *Lynx* not one was even attacked. Bonny town is only about six miles from where the *Lynx* was lying, consequently there could have been very little, if any difference as to the 'heat and humidity' of the atmosphere in the positions of the vessels that suffered and that which escaped.

"Capt. Brunswick Popham commanded the *Pelican*, with a complement of 110 white men, for four years and a half, on the east and west coasts of Africa.

During this time, his loss by death amounted to three Europeans. He made it a rule to avoid rivers, his boats having on one occasion only been in the Bonny, and that for a very short time. Capt. Popham was on the station during 1835-6-7-8, and part of 39, during which the mortality on the coast is but too well known. In short, it seems to me perfectly clear, from the evidence of many old African cruisers, non-professional as well as professional, and from my own experience, that, as a general rule, a ship will continue healthy on the west coast of Africa, if she is clean internally, and keeps at sea, and that disease will appear if she remains much nearer the shore, or has intercourse with the rivers. If we admit the immunity in the one case, and the occurrence of disease and death in the other, surely the destructive agency must have been owing to something connected with the land, which is acted upon by the same meteoric agencies as the sea, with this difference, that the land and sea breezes become more feeble as we advance into the interior. The sun is mainly effective *from below* in heating the atmosphere on land and water, both of which absorb its rays and communicate them to the air above. Theoretically, we would expect nothing pernicious to be evolved from the sea, the surface of which is always in a state of greater or lesser agitation; and practically we find the conclusion to be just. On shore, on the contrary, we have all varieties of soil, in many conditions of which we have a right to infer, that gaseous evolutions will take place by the action of heat; and experience but too plainly tells us, that wherever certain conditions are present within the tropics, there, in general, disease is most rife. It will no doubt be said that we have, as yet, no chemical evidence of the existence of malaria. But because its precise nature is unknown to us, are we, in the face of such destructive results, to deny its being? We may just as well say, that small-pox and other exanthemata cannot be propagated through the medium of the atmosphere, although the constitution of their poisons has not as yet been recognised by any 'chemist or physiologist.'

"Provided that men have not been for a considerable time exposed to the noxious exhalations within rivers, it seems abundantly evident that their effects are in a great measure counteracted by the air of the open sea.

"In November, 1838, H. M. S. *Pylades* (a ship remarkable for her general salubrity), under the command of Captain William L. Castle, had occasion to be in the Bonny about forty-eight hours; several of her crew were attacked with fever, soon after leaving the river, but they speedily recovered on the passage to Saint Helena, to which island the ship was ordered. Capt. Castle has observed similar results in other ships during a long period of service on the west coast.

"In March, 1839, Capt Craigie was again called into the Bonny, to settle some disputes between King Peppel and the palm-oil ships. Dreading a repetition of the calamities of 1837, he left the *Scout* outside, and proceeded up the river in the *Bonetta*, brigantine, commanded by Lieutenant (now Commander) John Stoll, taking with him, in addition to her crew, Lieut. Frederick A. Campbell, Mr. Bainbridge, mate, and myself. We remained off the town about thirty-six hours. The day on which we got out of the river, upwards of twelve of the seamen and marines presented themselves to Mr. Kinnear, the medical officer of the *Bonetta*, complaining of heat of skin, vomiting, and other febrile symptoms, which, however, soon disappeared as the vessel proceeded to sea.

"From these and numerous other instances, it would appear that the action of miasma is quite analogous to that of other poisons, inasmuch as its injurious effect is in proportion to the amount taken into the system. By remaining long in rivers, the quantity imbibed will be very commonly sufficient to destroy life, while a short stay in such localities will only produce a temporary disorder of the functions."

ORIGINAL COMMUNICATIONS.

ON THE CAUSE OF ELASTICITY AND VARIOUS EFFECTS OF TENSION IN THE HUMAN FRAME. By *T. Wilkinson King*, F.R.C.S.E.

Former Views of the Writer—Humoral Interferences—Dr. Todd and Mr. Bowman's Views of Tissue—Different Tunics of Bones, of Nerves, of Vessels, of Organs, of Ducts—Comparison of Cava and Saphena—Theory of Varix—Fascia—Blood-tensions.

A PRETTY train of just thoughts even in philosophical matters may be far enough away from what is useful in practical life. To some minds, perhaps, the sense of beauty and utility are scarcely separable, and yet again there are very few who do not at once yield to the simple well-expressed hypothesis which is consonant with known facts and not opposed to established opinions. These ideas apply in a little measure to the subjoined view of tension and the cause of elasticity. The explanation may seem pretty, to some perhaps not useful; and it may appear just to many: yet there is room to fear that, after being admitted, it will be found to offend against doctrines long received. To these I shall not again refer; nor shall I refer to final causes. The object I have now in hand is chiefly to strengthen and to illustrate some already stated opinions by considering the mode of extension which induces elasticity.

I have elsewhere endeavoured to show what tension has to do with the growth, excavation, repair and wasting of bone,* and with the evolution of some other tissues. To tension I have referred the new ligament that re-unites divided muscles, tendons and ligaments, as well as bones occasionally.† By tension I have endeavoured to explain the order of the initiative ossifications in the skeleton, and that of the consolidation of the various epiphyses of bones.‡ To a certain degree and mode of extension it is that I suppose the elasticity of tissues to be due. The inquiry itself I am very far from thinking devoid of practical interest. It rests a claim on this; and the opinion, when established, will, I think, conduce strongly to safe and more defined principles of treatment.

The matter which nourishes the soft tissues, decides no doubt, and in some parts more markedly than others, their measure of elasticity. Thus, the most healthy pleuritic bridle seems like pure reticular membrane, but various less natural adhesions put on tendinous or almost unorganized characters. So deteriorated blood makes ligaments ossify, but those first which are most strained. Such with the best nutrition would only grow strong; with abundant defective nourishment, and much use, they do but increase morbidly.

Ligaments, tendon, reticular tissue and skin, unite to secure the knee-joint. Deprive the solid cords of all tension and they disappear. Extend and nourish a band of elastic membrane or of skin, and the energy being sufficient, it becomes

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* See "Fracture," Encyclop. of Surg. and "Isolated New Bone," Prov. Med. Journal, Aug. 12, 1843.

† Ibid. and "Repair of Patella Broken Transversely," Guy's Hosp. Reports, No. 13.

‡ London Med. Gaz. April 19, 1844. To the decline of tension I have imputed occasional isolations of parts of bone, and the same likewise to excessive tensions.

tendon. Give it but a certain great or free activity, and its mass and elasticity are increased.

Suppose a radius or a lever with equal parallel cords stretched to different points of its length; or, suppose cords of equal strength, but of different lengths, to be acted upon by one and the same force, and it seems almost self-evident that the same powers and qualities of organization (nutrition or repair) must operate differently on all of these. Thus it is that we find reticular tissue, skin, &c. varying all over the body.

I avail myself freely of the ingenious and valuable labours of Dr. Todd and Mr. Bowman, as it is almost necessary here to set forth the best knowledge we possess of the anatomy of the tissues in question.—*See* "The Physiological Anatomy and Physiology of Man," Part I. p. 69, *et seq.*)

Ligamentous or fibrous tissues are two—the "white" and the "yellow." The first "it would appear incorrect to describe as a bundle of threads. It is rather a mass with longitudinal parallel streaks (many of which are creasings) and which has a tendency to slit up almost ad infinitum." Acid obliterates "all" appearance of fibrillæ in it.

The yellow fibrous tissue consists "of fibres, round in some, flattened in other specimens. These fibres are very variable in diameter, usually from $\frac{1}{3000}$ to $\frac{1}{1000}$ of an inch in diameter.

"They bifurcate, or even divide into three; and the sum of the diameters of the branches considerably exceeds the diameter of the trunk. They anastomose freely with each other. They are prone to break under manipulation, and the broken extremities are abrupt and disposed to curl up: when many of these broken ends exist together in the same piece, they give it a very peculiar and characteristic appearance.

"In the human subject we find this tissue employed in the spine, as the *ligamenta subflava*, extended between the laminæ of the vertebræ; in the larynx forming the thyro-hyoid and crico-thyroid membranes, and the chordæ vocales; and the trachea, forming the longitudinal or elastic bands of that tube and its branches. The internal lateral ligament of the lower jaw, the stylo-hyoid ligament, and the transversalis fascia of the abdomen, are also, in a great measure, composed of it." It is evident that in all the situations here indicated only very controlled forces extend the elastic tissue.

"In *chemical constitution*, this tissue differs remarkably from the white fibrous tissue. It is unaffected by the weaker acids, or by boiling, and will resist putrefaction, and preserve its elasticity during a very long period. Very long boiling appears to extract from it a minute quantity of a substance allied to gelatine; but this is perhaps derived from the areolar tissue and vessels, which always penetrate sparingly among its fibres, and cannot be separated by dissection.

"We have hitherto spoken of the two forms of fibrous tissue as they occur in isolated masses; but their distribution through the body is far more extensive than this description would imply. In a diffused form, blended with one another in very varying proportions, and each one of them presenting a variety of modifications, they compose the *areolar tissue*."

"The areolar tissue" is very widely dispersed among the other tissues of the body, and of itself constitutes a principal portion of some organs. It serves the most important purposes in the *construction* of the body, by binding together, and yet allowing movement between, its elementary parts; and it contributes largely to the formation of membranes, conferring protection by their toughness, resistance, and elasticity.

"*Microscopic Characters.*—When a fragment of the areolar tissue from a favourable situation is examined, it presents an inextricable interlacement of tortuous and wavy threads intersecting one another in every possible direction. They are of two kinds. The first are chiefly in the form of bands of very unequal thickness, and inelastic. Numerous streaks are visible in them, not usually parallel

with the border, though taking a general longitudinal direction. These streaks, like the bands themselves, have a wavy character, but they are rendered straight by being stretched. The streaks seem more the marks of a longitudinal creasing, than a true separation into threads; for it is impossible by any art to tear up the band into filaments of a determinate size, although it manifests a decided tendency to tear lengthwise.

"The larger of these bands are often as wide as $\frac{1}{300}$ of an inch; they branch or unite with others here and there. The smaller ones are often too minute to be visible, except with a good instrument. These are the *white fibrous element.*

"The others are long, single, elastic, branched filaments, with a dark decided border, and disposed to curl when not put on the stretch. These interlace with the others, but appear to have no continuity of substance with them. They are for the most part about the $\frac{1}{6000}$ of an inch in thickness; but we often see, in the same specimen, others, of much greater density. These form the *yellow fibrous element.*

"By the endless crossing and twining of these microscopic filaments, and of fasciculi of them among one another, a web of amazing intricacy results, of which the interstices are most irregular in size and shape, and all necessarily communicate with one another."

"The areolar tissue is one of the most extensively diffused of all the elements of organization, and its chief purpose seems to be that of connecting together other tissues in such a way as to permit a greater or less freedom of motion between them. To do this, it is placed in their interstices, and is more or less *lax*, more or less abundant, according to the particular exigency of the part. It is by means of this tissue, as well as by the complexity of its own web, that almost every part of the vascular system is fixed in its position, and allowed to undergo the movements impressed upon it by the circulative powers. Even the capillaries supplying this system itself are for the most part brought to it, and enveloped, by this tissue."

"It is remarkable, however, that the central organ of the circulation, like the central organ of the nervous system, contains this tissue in very small proportion; one reason of which seems to be, that its fibres differ from the parallel fibres of other muscles, by twining among one another, and thus are enabled to dispense with an extraneous bond of connexion."

"Where great elasticity is required, the yellow element predominates; while the white fibrous element abounds in parts demanding tenacity and power of resistance. In all cases the openness of the network is proportioned to the extent of mobility required."

The retractor ligaments of the lion's claws, like the elastic coats of arteries, are set to counteract muscle at peculiar advantage. They yield momentarily, and operate efficiently as resistance declines. We cannot doubt that excessive tension converts the elastic tissues into the ligamentous, and this even in healthy bodies. Disuse brings fascia to reticular tissue. Free use and due nutrition may develop greatly the elastic, but beyond this condensation must follow.

From illustrations to be found in animals it would almost appear that—with altered blood and tensions—ligament may become elastic periodically—and the same applies even to our bodies.

Comparative Anatomy would furnish very various illustrations of elastic organized structure, and of its peculiar circumstances as to tension, but it is needless and hurtful to travel far from our proper provinces.

When we regard periosteum in many different parts of the system, including endosteum, the lining of bony cells and passages, and also the dura mater and spinal theca, we discover evidences of various specific grades or forms of tension. Vibration, the spreading insertion of muscles, the absence of tensions within, and the weak spongy tissue of some bones, offer considerable distinctions. The posterior half of the spinal theca throughout its length is the thicker by much,

and is more elastic* than elsewhere. It struck me that it is also more subject to a guarded occasional stretching, just as the flavous ligament of the arches is, and the nuchal rope which helps to sustain the head of the horse. Now, considering that the other parts of the same theca are dense, thin, and ligamentous, I conceive the elasticity of the posterior half to be strikingly connected with its different relation to the centre of motion in the spine, with its freedom from adhesions, and its subjection to *specific* extensions.

The case of the Dura Mater may seem somewhat problematical. A dense tendinous sheet stretched between fixed points, and not without notable traits of habitual tension, well nourished, with fibres indicating very precisely the direction in which extensions act most energetically, and, though thin in health, certainly devoid of all appearances of atrophy or disuse;—what are the forces that may act upon it? The weight of the brain on the tentorium is all sustained by the great falx—may it not be that a tension equal to about one pound's weight—habitually operating through the day, (at the summit of the vascular column) with altered circumstances at night, serves to keep up the solidity of this protecting envelop? I would not estimate lowly the vascular distending force, though its operation varies. This is the only power by which I can explain the strong adhesion of the dura mater to the skull, and the first cause with respect to morbid forms of the adhesion. The solid cords of nerves subject to extensions without the skull, and the coatless feeble medullary cords within it, are in strong contrast.

The adhesions in the arachnoid are *close*, or short *films*; some are longer in the spinal canal.

Neurilema may be said to resemble ligament, in arising from bone and tendon, in having one extremity, in some way or other, subject to the indirect extension of muscles. The long and deflected course of nerves is however peculiar, and their measure of elasticity, though little, is distinct. The sheath of the optic nerve is in a certain sense only the ultimate insertion of two muscles of the globe. Vascular impulse in the orbit tends to project the ball. The great cause of a solid persistent sclerotica and cornea is, as I consider, the compression (or distension) caused by its muscles—nutrition being proportioned to resistance. The circumstances of the testes seem to be similar when they are exposed to pressures, and the albuginea, when in the abdomen of the adult, is thinner.

The fibrous tunics of the viscera† would appear feebler in proportion as they are little extended. The serous are prone to morbid thickenings from distension, attrition, bad nutrition, &c. If the strength and elasticity of the soft tissues of the air tubes are a criterion of the forces elongating them—which I scarcely doubt—I think we may adduce new and useful views of chest functions from them. The walls of the larynx seem to be gently stretched into form. Its egg-shell *bones* have a little to resist (like the coarse-celled sternum). The tracheal rings and the crescents in the bronchial bifurcations are very singular in form and office. They may become *earthy*, as rib-cartilages; not, I think, cancellated. So, if the vasa deferentia, ureters, gall-ducts, pancreatic, &c. indicate the forces obstructing their several orifices; but I would also anticipate exceptional conditions.

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* The observation that the posterior half of the theca is elastic, is, as far as I know, original with Mr. J. Hilton, and it was in one of his dissections that I first saw strongly marked the following fact:—

The spindle-point at the lower end of the spinal cord sends an elastic cord to be attached down the sacral canal, and this seems to me to have just about the same kind of extension as the above.

† There seem to be grades of texture in the proper tunics of the lung, liver, spleen, thyroid, kidney, prostate, parotid, &c. varying compressions and distensions must both be taken into the account.

I return once more to the nerves. What firm threads and dense knots do the sympathetics present! But if extension may explain the hard tunic of each little cord, the tractions of many cords may account for the solid coats of the ganglia. The great semilunar ganglia have each at times (Mr. Swan) large unmeaning *ropes' ends* attached to the supra-renal bodies; may not these likewise be the useful and physical result of traction on tissue, though atrophied nerve-cord originally. There are peculiar and distinct signs of atrophy and tensions internally and externally in the supra-renal bodies.

The elasticity of small aneurisms is I think greatest remotest from the heart. The tissue of valves compared with their vessels is remarkable. The valve is the more rarely and the more violently used—it looks like a compound of atrophy and hardness.—(*See* "Surfaces of Contact and Attrition on the Valves of the Heart," &c., *Guy's Hosp. Rep.* No. 10.) Various valves, arteries and veins *naturally* waste, without use*—the *efficient cause* of the persistence of others. The structure of vessels in different parts follows their use, while it indicates their need, as at the vertex and the foot. The casual and temporary changes of vessels have other causes.† The inferior cava being obstructed, all below will be distended, but the next most open course for the blood will be the most liable to occasional or momentary reliefs, and it is that which becomes enlarged to good purpose.

Comparing the elastic saphena vein with the dense cava—considering them as parts of the same system and even of the same cord, nay, in evolution almost identically one and the same things, can we see any more likely cause for the peculiar texture of each than the physical circumstances to which each is subject? The one valveless, liable to reflux and distensions sometimes violent, and always—with good nutrition—firm and equal to its wants; the other, extremely elastic, emptied by every motion, subject to some stretching similarly to the elastic theca of the spinal marrow, but perhaps subject to no violence either within or longitudinally.

I may here glance at the state of varices which seem yet little understood. The disorder is one of daily over-distensions and imperfect nightly repairs—of a chronic or rather of a *variable* character. The greatest exertion with due repair makes both tubes and valves equal to their offices. The time is gone for cure, when the veins, being too wide, thick, hard and deformed, the valves also deteriorated and useless, and the skin defective as support, we set about getting rid of the channels altogether. The incipient, variable and perhaps most painful stages, when some balance between distension and nutrition (as to degree and quality) might avail, never seem to have been noticed.

The varied texture in different muscles results from their degree of use. It may not at first sight appear that the fasciæ owe their permanent solidity to habitual tension as ligament does, yet we may compare their tension to that of other tissues, as dura mater. One source of stretching (the margins being fixed) is found in lateral pressure, which thus tends to elongate the tissue and to determine the course of its dense threads. Aponeuroses, like neurilema, are subject to counter-extension by their more moveable bony connections through the agency of muscle. It is certain that fasciæ in general are only developed by muscular efforts, and that in their rise, seat, substance, and arrangement they are strictly

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* The persistence of ductus arteriosus or cord gives the measure of the forces acting on it.

† I have formerly endeavoured to show how it is that unusually easy circulation in a part empties and relaxes and so enlarges the artery of supply, and I have intimated the effect of healthy blood in such a case. The new and free course of the blood after tying a great artery was represented as a very simple problem. (London and Edin. Monthly, July 1842.)

governed by muscular extensions—they are equal to the positive insertions of tendons or of muscles.

Whilst ligament depends on strong tension, elasticity seems to result from a force of extension which is more gentle, gradual, and guarded, and more limited in its range of variation.

Ligament* may have the more complete temporary relaxation.

In conclusion, it does not seem insignificant to remark, that while there is reason to infer that the blood takes up and deposits according to fixed rules of chemical attraction in dependance on the state of the circulating fluid, and on that of the organ or tissue, nourished, we also discover manifest traces of other controlling or concurrent molecular forces. The state of repletion—compression of the fluids in the vessels, and the proportion of tension in particular tissues for the time being, manifestly affect the interchanges which the capillary blood undergoes. Changes of temperature depend on molecular changes, or *vice versâ*, produce such changes. Elasticity of tegument is regulated by vascular supply, belongs to and is essential to health, yet with external cold it may almost disappear.

That pressure on the blood regulates absorption and deposit generally is doubtless true, so also is it that extravascular tensions decide similar changes locally.

Some Hints on the most Efficient Modes of Administering Medicines. By A Practitioner of Half a Century.

Many of the most important discoveries and improvements in medical science are rendered comparatively useless, in consequence of being unskilfully applied to actual practice. In no department of knowledge is this defect more conspicuous than in therapeutics. Man, (and I believe the same remark applies to all created beings), is born with a kind of instinctive antipathy to physic, which antipathy he retains from the cradle to the grave. Look at the ingenious spoons that have been invented to force physic down the throats of infants! Observe the mantel-pieces of sick chambers, and count how many phials are either uncorked, or only half emptied! How great a proportion of mankind hate the very name of physic! If the stomach his apt to turn at the thought of medicine, when we are in health, how much less capable is it to bear nauseous drugs in the various forms of disease, nine-tenths of which affect the stomach sympathetically with squeamishness, nausea, and aversion to food as well as physic? The evil consequences of nauseous forms of medicine being used in sickness, are great beyond all calculation or belief. One result is, that medicine is not taken in sufficient quantity—sufficiently often—or for a proper length of time.

What practitioner will fail to recognise the following picture of almost daily occurrence? A medical man is in anxious attendance on a patient—say a lady after confinement, and threatened with some grave malady—peritonitis, for instance. He prescribes what he conceives to be active and efficient remedies for the night, and gives strict injunctions to the nurse. In the morning, when he calls, he meets the nurse on the stairs. Have you given your mistress the medicines punctually? Most punctually, sir. Well, what has been the effect? "Brought everything up again, sir." What, all? "Every drop, sir—and I

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* It seems to me extremely probable that every valve and every ligament is developed in its proper place by the very physical force which subsequently demands such aid. The sites of venous valves in this respect are very remarkable. The valves and the tunics of lymphatics are all but equal, and so are their tensions; the currents being easy and rapid.

thought she would have brought her very heart up with it." After such intelligence, the feelings of the doctor, on entering the chamber, are not particularly enviable. Now all this is more frequently owing to the form than the substance of the medicine exhibited.

In chronic diseases, where the remedial process is necessarily chronic also, we are daily baffled by the repugnance—nay, the resistance of the patient to a protracted course of physic. Yet it might very generally be so contrived, that the patient would desire, rather than loathe his medicines!

I am aware that in some acute diseases, the state of nausea itself is desirable and salutary. But it is not the mere nausea or sickness which lessens the velocity of the circulation, opens the secretory vessels, and checks inflammation. These remedial processes depend much upon the *quantity* of medicine—say antimony—which the patient can bear in order to induce them. Thus double or triple the quantity of tartrate of antimony will be borne, before sickness is induced, if given in an effervescing draught, as compared with the same medicine given in plain water. And the remedial effects will be in proportion. This is a truth that should ever be held in mind, and the principle was well understood by Rasori, Thomasini, and others. The contra-stimulant effects of antimony are trifling during the nausea and sickness at the beginning:—it is when the *tolerance* is acquired that the inflammation or high fever is controlled.

But there is a large class of diseases in which the stomach is morbidly irritable, and where nauseating medicines are positively injurious. Putting aside the multitudinous forms of dyspepsia, we have affections of the uterus, the kidney, the liver, the pancreas, &c., where the stomach is prone to disordered function, and where it is of the greatest consequence to exhibit medicines in forms that will tranquillize rather than nauseate the stomach. Diseases and disorders of the kidney are now acknowledged to be much more frequent than they were formerly suspected to be—and these are very generally attended with gastric irritability. In these it is of great importance not to ruffle the stomach by medicines. In affections of the brain, now so exceedingly common in consequence of the advanced stage of civilization, and the operation of various perturbing moral causes, the stomach is often the organ most conspicuously deranged—and we are not seldom foiled in the exhibition and perseverance of proper remedies, from the sympathetic disorder of stomach.

Nine-tenths of the cures that are said to be performed by homœopathy, result from the spare diet and the nullity, as it were, of medicine employed. Of all the medicines that are prescribed by the physician, the class of salines are the most generally beneficial, as opening the secretory organs, as the skin, the liver, the kidneys, &c., besides improving the state of the blood, and restraining febrile action in the constitution. These, when exhibited in an effervescing state, are far more palatable, as well as more efficacious, than when given in a plain form.

Tonics, on which the routine practitioner so much relies, and which he exhibits with no sparing hand, are more frequently injurious than beneficial. They give a feeling of tone for a time; but they lock up the secretions, increase too much the appetite, and lay the foundation for future states of plethora, congestion, or indigestion.

Now saline effervescents may be made the vehicle for many of the most powerful tonics, and indeed the most potent medicines which we possess. The citrate of iron, colchicum, antimony, arsenic, quinine, iodine, &c. &c., may all be exhibited in a form that increases their remedial efficiency, and lessens their tendency to nauseate the stomach.

SENEX.

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